।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
Phone: (02462) 229542
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. -III Year- Marathi
02. B. A.- III Year- Hindi
03. B. A. - III Year- English
04. B. A. -III Year- Urdu
05. B. A. - III Year- Sanskrit
06. B. A. -III Year- Pali
07. B. A. - III Year- Kannada
08. B. A.- III Year- Economics
09. B. A.- III Year- Policital Science
10. B. A.- III Year- Sociology
11. B. A.- III Year- Philosophy
12. B. A.- III Year- Geography
13. B. A. -III Year – Psychology
14. B. A. - III **Year History**
15. B. A.-III Year- Public Administration
16. B. A.- III Year- Military Science
17. B. A.-III Year- Administrative Services

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/८७
दिनांक : २४.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS
B.A. THIRD YEAR
SEMESTER-V&VI
ECONOMICS

SEMESTER PATTERN
(CHOICE BASED CREDIT SYSTEM)
WITH EFFECT FROM 2021-22

Submitted By – Board of Studies in ECONOMICS

SWAMI RAMANANAD TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS) Course Structure

Faculty of Humanities

B.A. Third Year

SEMESTER PATTERN - ECONOMICS

With Effect From 2021-22

Semester	Core Course	Paper No.	Name of Paper	Lecture/ week	Total No. of Lectures	CA	ESE	Total Marks	Credits
	DSE-ECO	IX	History of Economic Thoughts – I (Optional) OR Mathematical Economics – I (Optional) OR Industrial Economics (Optional)	4	55	25	50	75	3
	GE-ECO	X	Indian Economy (Compulsory)	4	55	25	50	75	3
	SEC	III	Financial Inclusion and Financial Literacy	3	45	25	25	50	2
Total				11	155	75	125	200	8
	DSE-ECO	XI	History of Economic Thoughts – II (Optional) OR Mathematical Economics – II (Optional) OR International Economics (Optional)	4	55	25	50	75	3
	GE-ECO	XII	Public Finance (Compulsory)	4	55	25	50	75	3
	SEC	IV	Entrepreneurship Development	3	45	25	25	50	2
	Total			11	155	75	125	200	8
Grand Total (Semester V & VI)				22	310	150	250	400	16

SEC- Skill Enhancement Course

SWAMI RAMANANAD TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Pattern of Economics
Faculty of Humanities
B.A. Third Year
With Effect From 2021-22
Subject: ECONOMICS
SEMESTER - V

Paper No.	Title of the Paper	Continuous Assessment (C.A.)	End of Semester Examination (E.S.E.)
DSE-ECO - IX	History of Economic Thoughts – I (Optional) OR Mathematical Economics – I (Optional) OR Industrial Economics (Optional)	25	50
GE – ECO - X	Indian Economy **(Compulsory)**	25	50
SEC-III	Financial Inclusion and Financial Literacy	25	25

SEMESTER - VI

Paper No.	Title of the Paper	Continuous Assessment (C.A.)	End of Semester Examination (E.S.E.)
DSE –ECO -XI	History of Economic Thoughts – II (Optional) OR Mathematical Economics – II (Optional) OR International Economics (Optional)	25	50
GE – ECO - XII	Public Finance **(Compulsory)**	25	50
SEC-IV	Entrepreneurship Development	25	25

Distribution of Marks

Core Course :			**75 Marks**
1.	Continuous Assessment (C.A.) :		25 Marks
	One Class Test for	10 Marks	
	+ One home assignment for	10 Marks	
	+ One Seminar For	05 Marks.	
2.	End of Semester Examination (E.S.E.) :		50 Marks
Skill Enhancement Course (SEC) :			**50 Marks**
1.	Continuous Assessment (C.A.) :		25 Marks
	One Class Test for	10 Marks	
	One home assignment for	10 Marks	
	One Seminar (Abstract should be must) for	05 Marks.	
2.	End of Semester Examination (E.S.E.) :		25 Marks
	Skill development activities for	10 Marks.	
	Theory examination on prescribed Syllabus by using University Answer Book for	10 Marks.	
	Project Presentation (Viva-Voce) for	05 Marks.	

End of Semester Examination (ESE)
Question Paper Pattern
ECONOMICS
With Effect From 2021-22

A) Core Course (DSE and GE ECO) :		**50 Marks**
Q.1	Descriptive question Or Descriptive question	10 Marks
Q.2	Descriptive question Or Descriptive question	10 Marks
Q.3	Descriptive question Or Descriptive question	10 Marks
Q.4	Descriptive question Or Descriptive question	10 Marks
Q.5	Write short notes on (Any two) I) II) III) IV)	10 Marks

A) Skill Enhancement Course (SEC) :	**25 Marks**
Skill development activities (Project) for	10 Marks
Theory examination on Prescribed Syllabus by using University Answer Book for	10 Marks
Project Presentation (Viva-Voce) for	05 Marks

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER – V

HISTORY OF ECONOMIC THOUGHTS-I (Optional)

DSE-ECO- IX

Credits: 03 **Periods: 55** **Marks: 75**

Marks : 75 = Theory (ESE) 50 + Internal (CA) 25

Course outline:

In this course an analysis of Western Economic thinkers has been taken. one should not analyze present economic thoughts without studying history of economic thoughts. Economic situation is presently changing hence the study of this course must. So the present paper has been framed for the study.

In the western economic thinkers medieval period mercantilism and physiocracy has been analyzed. Since, the father of Economics Adam Smith up to Karl Marx, classical thoughts are framed in the present course. Besides that Neo classical economist Fredrich List to Josef Schumpeter is also framed in the course.

Course Objectives:

1. To study the western economic thinkers and their economical analysis.
2. To study the thoughts of economists in the present scenario.
3. To study the applicability of western economic thought for the Indian contest.
4. To study the success of Prof. Pigou's economic welfare thought in Indian welfare state.

Course Utility:

1. Pupils will understand the basic economic concepts by studying the course.
2. Students will be able to solve the economic problems by studying this course.
3. Students will acquire the judgment power by studying the comparative approach.

Course Content:

Unit-I **Early Period :** **Periods 15**

1.1 Mercantilism - Causes of rise of mercantilism and Main features of mercantilism.

1.2 Physiocracy - Causes of rise of physiocracy. and main features (The Natural order, The Net Product & The circulation of wealth) of physiocracy.

Unit-II **Classical Period : I** **Periods 10**

2.1 Adam Smith- Division of Labour and Theory of value.

2.2 David Ricardo- Theory of value & thoughts on wages.

Unit-III **Classical Period : II** **Periods 10**

3.1 Thomas Malthus- Theory of population.

3.2 Karl Marx- Theory of surplus value & crisis of capitalism.

Unit-IV **Neo Classical Period: I** **Periods 10**

4.1 Fredrich List - Stages of Economic Development and theory of protection.

4.2 Alfred Marshall- Role of time in price determination. concepts of Internal & External Economics.

Unit-V **Neo Classical Period: II** **Periods 10**

5.1 Arthur Cecil Pigou- Ideas on Economic welfare.

5.2 Josef A. Schumpeter- Role of innovation in Economic development.

Books Recommended :

1. Black Hours R. (1985); A History of Modern Economic Analysis; Basil Blackwell Oxford.
2. Gangio, B.N. (1977); Indian Economic Thought; A 19th Century Perspective, Tata McGraw Hill; New Delhi.
3. Gide C. and G. Rist (1956); The Development of Economic Doctrine, (2nd Edition); Congman Group, London.
4. Dr. S.M. Desai, Development of Economic Thought;
5. Kautilya (1992); The Arthashatra; Edited Rearranged; Translated and Introduced by D.N. Rangarajan; Pergain Books; New Delhi.
6. Roll, E (1973); A History of Economic Thought; Feber; London.
7. Schumpeter, J.A. (1954); History of Economic analysis; Oxford University Press; New York.
8. Seshadri, G.B. (1997); Economic Doctrines; B.R. Publishing Corporation; Delhi.

७. प्रा. रायखेलकर डॉ. दामाजी,आर्थिक विचारांचा इतिहास.

८. डॉ. पाटील जे. एफ. आर्थिक विचारांचा इतिहास.

९. भुपेंद्र सिंह, आर्थिक विचारोंका इतिहास.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
With Effect From 2021-22
B.A. Third Year
ECONOMICS
SEMESTER – V
MATHEMATICAL ECONOMICS -I (Optional)
DSE – ECO - IX

Credits: 03 **Periods: 55** **Marks: 75**

Marks : 75 = Theory (ESE) 50 + Internal (CA) 25

Course Outline :

This course explain the theories of micro and macro economics with the help of statistics and mathematics. With the help of this course, the work of imparting knowledge of Economics to the students are more accurately. This course has been chosen to make the students understand more about the subject of Economics. This course studies Interpolation and Extrapolation for Statistics and Matrix, Indices and derivative for mathematics.

Course objectives:

1. To explain the basic mathematical concepts to students.
2. To explain theories of Economics using mathematics and statistics.
3. To facilitate understanding of the basic concepts of Economics with the help of mathematics and statistics.

Course utility :

1. Students will understand basic economic concept with the help of this course.
2. This course is important to prepare the background for the post graduate course in Economics.
3. Student who study this course will be eligible for MBA course in the future.
4. This course will be useful for preparation of competitive exam.
5. With the help of this course, the basic economic concept of the student will become clearer.

Course Content :

Unit 1 : Interpolation and Extrapolation **Periods : 10**

1.1 Meaning of Interpolation and Extrapolation.
1.2 Importance of Interpolation and Extrapolation.
1.3 Methods of Interpolation - a) Graphical Method
b) Algebraic Method - Binomial Expansion Method.
1.4 Methods of Extrapolation - Binomial Expansion Method.

Unit II : Theory of Matrices **Periods : 12**

2.1 Meaning of Matrix.
2.2 Types of Matrix.
2.3 Algebra of Matrices - Addition and Subtraction of Matrix.
Multiplication of Matrix. Inverse of Matrix. Transpose of Matrix.

Unit III : Determinants and Simultaneous Equation **Periods : 13**

3.1 Determinants of Matrix.
3.2 Properties of Determinants.
3.3 Solution of Simultaneous Equation by using matrix.

Unit IV : Indices **Periods : 10**

4.1 Meaning of Indices.
4.2 Laws of Indices.
4.3 Solution of example with the help of laws of indices.
4.4 Importance of Indices in Economics.

Unit V : Differentiation Calculus **Periods : 10**

5.1 Rules of Differentiation.- product and quotient rule.
5.2 Total and partial derivatives.
5.3 Uses of derivative in Economics.

Books recommended :

1. Allen,R. G. D. (1974) Mathematical Analysis for Economist, Macmillan Press and ELBS, London.
2. Koutsoyiannis A. (1979), Modern Microeconomics,Macmillan Press, London.
3. Mehta B. C. and Madnani G. M. K., Mathematics for Economics , S. Chand Publication, New Delhi.
4. S. P. Gupta, (1995) Statistical Methods, Sultan Chand and Sons Publication, New Delhi.
5. Chiang A. C. (1986), Fundamental Methods of Mathematical Economics , McGraw Hill, New York.
6. HendersonJ. M. and R.E. Quandt (1980) Microeconomics Theory: A Mathematical Approach,McGraw Hill, New York.
7. प्रा. राम देशमुख (2011), मूलभूत सांख्यिकी, विद्या प्रकाशन, नागपूर.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER – V

INDUSTRIAL ECONOMICS (Optional)

DSE – ECO -IX

Credits: 03 **Periods:55** **Marks: 75**

Marks: 75 = Theory (ESE) 50 + Internal (CA) 25

Course Outline:

In the present world Industry plays an important role in GDP and Employment. Past and Present governments are paying extensive attention on Industrial Development. This paper Intends to provide basic issues to students such as-organization of Firm, some important sectors of Industries, Industrial Policy and problems of Industries as well as Role of MNCs on Indian Industrial Development.

Course Objectives:

The specific objectives of the course are –

1. To provide basic knowledge of Industrial Economics.
2. To analyze the problems of Indian Industries in present scenario.
3. To illustrate the Industrial Policy and Industrial Growth.
4. To provide knowledge of Liberalization and Indian Industrial Growth.
5. To aware the students regarding problems of manufacturing sector of Indian economy.

Course Utility:

1. The students will know why the entrepreneurs choose specific locations to establish the Industries.
2. The students will aware about the importance of MNCs in Indian Industrial Economy
3. The students will get knowledge of some large industries, agro based and small scale Industries.
4. The students will learn about the changes in Industrial Policy of India

Course Content:

Unit -1 **Framework of Industrial Economics:** **Periods 10**

1.1 Industrial Economics-Meaning , Scope and Significance.

1.2 Types of Firms – Individual, Proprietorship, Partnership, Joint Stock Companies, Public Enterprises.(Meaning & Features)

Unit-II Location Theory : Periods 10

2.1 Industrial Location: Factors affecting on Industrial Location.
Alfred Weber's Theory of Industrial Location.

2.2 Multinational Corporations- Meaning , Importance
and Advantages and Disadvantages.

Unit - III Performance and Problems of Industries: I Periods 15

3.1 Large Scale Industries-Cotton , Textile, Sugar and Iron and Steel.

3.2 Small Scale Industries: Meaning, Importance, Problems
and Measures for Growth of Small Scale Industries.

Unit-IV Performance and Problems of Industries: II Periods 10

4.1 Agro-based Industries-Meaning , Importance and Problems

4.2 Industrial Sickness- Causes and Remedial Measures.

Unit - V Indian Industrial Policies and Growth: Periods 10

5.1 Industrialization – Meaning and Importance in Economic Development

5.2 Industrial Policy of 1991, Trends in Industrial Growth after 1991.

Books Recommended :

1. Kuchhal, S.C.(1980), Industrial Economics of India (5th Edition); Chaitanya Publishing House, Allahabad.
2. Ahluwalia I.J.(1985); Industrial Growth in India; Oxford University Press; New Delhi.
3. Singh, A. and A.N., Sadhu (1988) Industrial Economics; Himalaya Publishing House, Mumbai.
4. Barthwal R.R.(1992); Industrial Economics; An introductory Text Book; Wiley Eastern Ltd; New Delhi.
5. Desai, B.(1999); Industrial Economy in India (3rd Edition); Himalaya Publishing House, Mumbai.
6. Naidu K.M.(1999); Industrialization and Regional Development in India, Reliance Publishing House, New Delhi.
7. Mamoria and Mamoria (2000); Dynamics of Industrial relation in India (15th Edition); Himalaya Publishing House; Mumbai.
8. Datta R & K.P.M. Sundram; (2014) Indian Economy; 50th Edition,S.Chand& Co.Ltd; New Delhi.

९. देसाई, भालेराव (१९८८), भारतातीलऔद्योगिकअर्थशास्त्र, निरालीप्रकाशन, पूणे.

१०. रायखेलकर, खेडकर (१९९९),औद्योगिक अर्थशास्त्र,विद्याबुकपब्लिशर्स,औरंगाबाद.

११. कोंडेवार यु.बी.,स्मिताकोंडेवार (२००५)औद्योगिक अर्थशास्त्र, शोभाभारती प्रकाशन, अहमदपूर.

१३. इंगळे बी.डी., (२०१२) औद्योगिकअर्थशास्त्र, अरूणा प्रकाशन, लातूर.

१४. चव्हाण एन.एल.,(२०१२) भारतीय अर्थव्यवस्थेचाविकास भाग–१, प्रशांतपब्लिकेशन्स, जळगांव.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER - V

INDIAN ECONOMY- GE - ECO -X

Credits: 03 **Periods: 55** **Marks: 75**

Marks :

75 = Theory (ESE) 50 + Internal (CA) 25

Course Outline :

This course is not only highly relevant to students and scholars interested in expanding their knowledge of Indian Economy, but also policymakers wanting to know more about opportunities offered by Indian Economy. This paper introduces types and challenges of Indian Economy like increasing population, Unemployment, Poverty, Inflation, Crises in Agricultural Sectors, etc. The present paper also introduces the role of different sectors in Indian Economy.

This paper includes economic planning and NITI Commission. The paper illustrates the impact of new economic reforms on Indian Economy. This paper also deals with the concept of foreign direct & Indirect Investment policy of India.

Course Objectives :

The specific objectives of the course are -

1. To expand student's knowledge about Indian Economy.
2. To let students know more about opportunities offered by Indian Economy.
3. The let students know more about challenges of Indian Economy.
4. To develop assessing capacity of students of economic policies.
5. To develop economic problem solving capacity of students.

Course Utility :

1. Student will acquire the knowledge of Indian Economy.
2. Student will understand various challenges of Indian Economy.
3. Student will be able to suggest various measures to policy makers for solution of economic problem.

Course Content :

Unit-I **Nature of Economy :** **Periods-10**

1.1 Meaning and Types of Economy - Capitalist, Socialist, Mixed, Closed and Open Economy (In brief).

1.2 Nature and Challenges before Indian Economy - Population, Poverty, Unemployment, Fluctuations in Agricultural commodity Prices, farmers suicides.

Unit-II **Sector wise Development in Indian Economy :** **Periods-10**

2.1 Role of Agriculture, Industry and Service Sectors in Indian Economic Development.

(Sectoral share in GDP, Employment and Growth rates)

2.2 Human Development Index – Concept and Components.

Unit-III Economic Planning : Periods-10

3.1 Economic Planning – Definition, Meaning, Needs and Objectives.
12 th Five Year Plan- Objectives and Achievements

3.2 National Institutions for Transforming India (NITI) Commission – Objectives and Structure.

Unit-IV Infrastructure : Periods-10

4.1 Transport, Energy,

4.2 Education and Health

Unit-V Economic Reforms in India : Periods-15

5.1 New Economic Reforms – Liberalization, Privatization and Globalization and its Impact on Indian Economy.

5.2 Role of Foreign Capital in economic development

5.3 Foreign Direct Investment - Meaning and Policy.

Books Recommended:

1. GauravDatt&AshwiniMahajan, DattSundram's Indian Economy; S.Chand and Sons Co.Ltd;New Delhi.
2. MisraS.K.andPuri V.K.;I (Edition 2014) Indian Economy Its Development Experience, Himalaya Publishing House ,Mumbai.
3. DhingraIshwar(2006) ;Indian Economy S.Chand and sons Co.Ltd;New Delhi.
4. Uma Kapil (2013),Indian Economy, Performance and Policies,Acadamic Foundation,New Delhi.
5. Ahluwalia I J and I.M.D. Little,1(999),Indian Economic Reforms and Development.
6. Brahmananda R.R. and Panchmukhi V.A.(Edition 2001),Development Experience in Indian Economy Inter-State Perspectives, Bookwell, Delhi.
7. Gupta S. P. (1989),Planning and Development in India; A Critique, Allied Publishers Pvt.Ltd.,New Delhi.
8. JhaRaghbendra (Ed 2003)Indian Economic Reforms Hampshire,U.K.
9. Chug Ram L. and Uppal J.S. (1985),Black Money in India Tata McGraw Hill, Sagar Publication New Delhi.
10. Gupta Suraj B.(1992);Black Money in India, Sage Publication, ,New Delhi.
11. BhagwatiJagdish ,(2004);In Defence of Globalisation, Oxford University Press U.K.
12. Government of India,Economic Survey 2004-05
13. World Development Report, UNDP.
14. ›üÖò. •Öß.‹-Ö. —ÖÖ´Ö,êü, ³ÖÖ,üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ×¾Ö úÖÃÖ ¾Ö ¯ÖµÖÖÔ¾Ö,ü ÖÖŸ´Ö ú †£ÖÔ¿ÖÖÃ¡Ö, Ø¯Ö¯Öôûö¯Öã,ê †ò ›ü ..¯ÖÛ²»Ö¿ÖÃÖÔ, -ÖÖ Ö¯Öæ,ü. 2011.
15. ³ÖÖêÃÖ»Öê ¾Ö úÖ™êü, ³ÖÖ,üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ±ú›ü êú¯ÖÏ úÖ¿Ö-Ö, úÖê»ÆüÖ¯Öã,ü.

16. ¤êüÃÖÖ‡Ô ³ÖÖ»Öê¸üÖ¾Ö, ³ÖÖ¸üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ×-Ö¸üÖ»Öß ¯ÖÏ úÖ¿Ö-Ö, ¯Öã Öê.

17. ¯ÖÏÖ. ‹-Ö.‹»Ö. "Ö¾ÆüÖ Ö, ³ÖÖ¸üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ü¯ÖÏ¿ÖÖÓŸÖ ¯ÖÛ²»Ö êú¿Ö-Ö, •Öôû ÖÖ¾Ö.

18. ÖÖî¸ü¾Ö ¤üÕ¢Ö, †ÖÛ¿¾Ö-Öß ´ÖÆüÖ•Ö-Ö, ¤üÕ¢Ö ‹¾ÖÓ ÃÖã-¤ü¸ü´Ö ³ÖÖ¸üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ‹ÃÖú. "Ö-¤ü ‹ ›ü ú´¯Ö-Öß ×»Ö., -Ö‡Ô ×¤»»Öß.

19. ÁÖß. ¸Óü•Ö-Ö úÖêôÓû²Öê, ³ÖÖ¸üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ³Ö Öß¸üÕ¯ÖÏ úÖ¿Ö-Ö, ¯Öã Öê.2017-18.

20. ›üÖò. × ú¸ü Ö •Öß.¤êüÃÖ»Öê, Ã¯Ö¬ÖÖÔ ¯Ö¸üß ÖÖÃÖÓ¯Öã ÖÔ †£ÖÔ¿ÖÖÃ¡Ö, ¤üß¯ÖÃŸÖÓ³Ö ¯ÖÏ úÖ¿Ö-Ö, •Öôû ÖÖ¾Ö.

21. ¯ÖÏ×ŸÖµÖÖê× ÖŸÖÖ ¤ü¯ÖÔ Ö, ³ÖÖ¸üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ×Æü-¤üß ´ÖÖ×ÃÖ ú, †Ö ÖÏÖ.

22. úÏÖò×-Ö ú»Ö, ³ÖÖ¸üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, (×Æü-¤üß/Eng), Chronicle Publication, Noida.ü

२३. सुर्यकांत पवार (२०१४) भारतीय अर्थव्यवस्था,स्वयंदिपप्रकाशन, पूणे.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER – V

SKILL ENHANCEMENT COURSE
FINANCIAL INCLUSION AND FINANCIAL LITERACY - SEC-III

Credits: 02 Periods: 45 Marks: 50

	Marks: 50 =(CA) 25 + (ESE) 25	
	Financial Inclusion and Financial Literacy	
	Course Outline: The course will be given in the form of lectures and practical work. Financial inclusion and financial literacy is the base of Cashless Transactions. As the majority of population is still not included in the inclusive growth. The Growth of financial inclusion becomes a challenge for the Indian Economy. Financial literacy is considered as important adjunct for promoting financial inclusion, consumer protection and ultimately financial stability. The aims of the Skill Enhancement Course are to focus on financial inclusion and financial literacy for the Indian formal sector. **Course Objectives:** The Specific Objectives of this course are : ✓ To develop the understanding of the basic concept of financial inclusion and financial literacy. ✓ To develop the awareness of saving and investment. ✓ To develop the financial activities of students. ✓ To develop the financial literacy of students ✓ To include each and every citizens in process of financial inclusion. **Course Utility :** Completed the essential reading and activities students Should able to : ✓ Student will be able to create their own financial plan. ✓ Student will be able to create their own budget. ✓ Student will propose a personal saving and Investment plan. ✓ Student will be examining how their choice of carrier and lifestyles will affect their financial plan. ✓ Student will be aware about financial inclusion and financial literacy. ✓ Student face a challenging economical future.	

	Content :	Periods
Unit: I	**Financial Inclusion:** Meaning, Definitions, Importance and Merits and Demerits, Financial inclusion in India, Jan DhanYojana.PradhanMantriSurakshaBimaYojana (PMSBY). PradhanMantriJeevanJyotiBimaYojana (PMJJBY).	10
Unit: II	**Financial Literacy:** Meaning, Definitions, Importance and Merits and Demerits, Financial Planning, Goal setting, Risk vs Returns, The Power of compounding.	10
Unit: III	**Saving and Investment:** Difference between savings and investments, effects of inflation on investment, saving and investment related products, protection related products, investment strategies, how not to lose money.	10
	SKILL DEVELOPMENT ACTIVITIES **(any five of the following)** 1. Prepare a chart showing sources of saving and types of Investment. 2. Prepare a chart showing sources of financial inclusion and steps of financial literacy. 3. Write a minimum two pageson your current financial condition and future financial plans. 4. Student will search article on financial planning and write what they learned from it. 5. Student will collect the data of financial services in the area/Village with the help of structured questionnaire. 6. Take a brief opinion or review of JanDhanYojana (JDY) from bank and its customers. 7. Take a brief opinion of PradhanMantriSurakshaBimaYojana (PMSBY) from bank and its customers. 8. Take a brief opinion or review of PradhanMantriJeevanJyotiBimaYojana (PMJJBY) from bankers and customers.	15

Books Recommended :

1. Schumpeter J.A. (1934), The Theory of Economic Development, Harvard University Press Cambridge.
2.. Lewis W. Arthur (1954), Economic Development with Unlimited Supplyof Labour, the Manchaster School.
3. Jhingan M.L. (1973),The Economic of Development and Planning, Vikas Publishing House, New Delhi.
4. Misra S.K., Puri V.K. (XIV Edition 2012), Economics of Development and Planning, Himalaya Publishing House, New Delhi
5. M.S. Sriram (2015) edited - Talking Financial Inclusion in Liberalised India: Conversations with Governors of the Reserve Bank of India.
6. K.G. Karmakar, G.D. Banerjee and N.P. Mohapatra(2011): Towards Financial Inclusion in India, Sage Publishers, New Delhi.
7. Alliance for Financial Inclusion. (2010). "Consumer Protection: Leveling the Playing Field in Financial Inclusion" Bankok, Thailand.
8. Bhole L.M.(2004), Financial Institutions and Markets, 4th Edition Tata McGraw-Hill, New Delhi.
9. Sobhesh KumarAgarwalla, Samir k. Barua,JoshyJacob,Jayanth R.Varma,(2013) "Financial Literacy among working Young in Urban India" Indian Institute of Management, Ahmedabad, India.
10. Report based on the studies undertaken under Financial Inclusion Project of UNDP, (2012), "Financial Literacy as a tool for Financial Inclusion &ClientProtection." United Nations Development Programme New Delhi.
11. गायकवाड ज.पा.,अशोकबोरीकर (१९९१) आर्थिकविकासआणिनियोजन, विद्याप्रकाशन, नागपूर.
12. पत्की अ.द., साबळे म.ना. (१९९१) विकासाचेअर्थशास्त्र आणिनियोजन, विद्याबुक्सपब्लिशर्स, औरंगाबाद.
13. भोसले,काटे(१९९८)विकासाचेअर्थशास्त्र आणिनियोजन, फडकेप्रकाशन,कोल्हापूर.
14. वावरेअनिलकुमार, लोंढे मारूती (२०१५), विकास व नियोजनाचेअर्थशास्त्र, एज्युकेशनपब्लिशर्स, औरंगाबाद.
15. सतिश सिंह (२०१७), वित्तीय समावेशनमेसामाजिकबदलाव, कुरूक्षेत्र मासिकन्युदिल्ली.
16. अर्जुनराममेघवाल (२०१७),''उभरतेभारतमेवित्तीय समावेशन'' पत्र सुचना कार्यालय, भारतसरकार.
17. सदाबिहारीसाहू (२०१७), वित्तीय समावेशनऔरप्रधानमंत्री जन धन योजना, संकल्पमासिक लखनौ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER – VI

HISTORY OF ECONOMIC THOUGHTS -II (Optional)

DSE – ECO - XI

Credits: 03 **Periods: 55** **Marks: 75**

Marks: 75 = Theory (ESE) 50 + Internal (CA) 25

Course outline:

In this course a study and analysis of eastern economic thoughts is made. Ancient thoughts and modern thoughts are also analyzed in the course. Koutilya's thoughts express the prosperity of ancient Indian Economy. The course also emphasizes the need of contemporary economic thoughts of DadabhaiNauroji, M.Phule, RajarshriShahu, DrBabasahebAmbedkar, YashwantraoChavan, ShankarraoChavan etc.

The course also provides the economic thoughts of today's most talked about economists like Nobel winners Dr. AmartyaSen and Prof. MahammadYunus. The course also gives the direction of the economic way the world has taken.

Course Objectives:

1. To study the economic analysis of Indian Economic thinkers.
2. To study the need of agricultural thought in the present situation.
3. To study the modern economic thoughts.
4. To study the political implementation of economic principles.

Course Utility:

1. Agricultural Entrepreneurship will be adopted by pupils.
2. Students will get knowledge of the exploitation of Indian Economy in the British rule.
3. Students will know how much the political Leadership is successful in solving the economic problems of the society.
4. The students will know the importance of Eastern Economic Ideas on the world level.

Course Content:

Unit-I **Ancient Economic Thoughts :** **Periods 10**

1.1 Koutilya- Ideas on wealth & Agriculture.

1.2 Role of Government in Economic development & social welfare.

Unit-II **Modern Economic Thoughts : I** **Periods 10**

2.1 Dadabhai Naoroji- Drain Theory and views on measurement of Indian National Income.

2.2 Mahatma Phule- views on Agriculture.

Unit-III **Modern Economic Thoughts : II** **Periods 13**

3.1 Rajarshi Shahu- Main economic ideas

3.2 Dr. Babasahed Ambedkar- Problem of Indian Rupee & Thoughts on Agriculture.

Unit-IV **Recent Economic Thoughts : I** **Periods 10**

4.1 Yeshwantrao Chavan- Main Economic Ideas.

4.2 Shankarrao Chavan- Main Economic Ideas.

Unit-V **Recent Economic Thoughts : II** **Periods 12**

5.1 Amartya Sen- Poverty & Welfare.

5.2 Abhijeet Banarjee : Thoughts on Poverty Alleviation

Books Recommended :

1. Black Hours R. (1985); A History of Modern Economic Analysis; Basil Blackwell Oxford.
2. Dr. S.M. Desai, Development of economic thoghts.
3. Abhijeet Banarjee : Poor Economics .
4. DadabhaiNaoroji, Poverty &unbritis rule in India
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10. |ÉÉ. ®ú. {ÉÆ.EÆòMÉ±Éä, EòÉèÊ]õ±ÉÒªÉ +lÉÇ¶ÉÉºjÉ (ºÉ]õÒ{É ¨É®úÉ`öÒ ¦ÉÉ¹ÉÉÆiÉ®ú) (2011) – ¨É½þÉ®úÉ¹]Åõ ®úÉVªÉ ºÉÉÊ½þiªÉ ºÉÆºEÞòiÉÒ ¨ÉÆb÷³ý
11. डॉ. भी.रा. आंबेडकर : रूपयाची समस्या त्याचे मूळ व त्यावरील उपाय (मराठी भाषांतर - सुभाष खंडारे) सुधीर प्रकाशन, वर्धा.
12. धनंजय कीर, डॉ. आंबेडकर : पॉप्युलर प्रकाशन प्रा. लि., मुंबई.
13. धनंजय कीर, महात्मा फुले : पॉप्युलर प्रकाशन प्रा. लि., मुंबई.
14. सुरेश सावंत (संपा.). आधुनिक भगीरथ - ना. शंकरराव चव्हाण गौरव ग्रंथ, मुंबई.
15. यशवंतराव चव्हाण : भूमिका, रोहण प्रकाशन, पुणे.
16. मंजुषा मुसमाडे - अर्थसंवाद - मराठी अर्थशास्त्र परिषदेचे ४४वे अधिवेशन -स्मरणिका.
17. खिडकी - अभिजीत बॅनर्जी - मुलाखत आणि शब्दांकन : अपर्णा वेलणकर

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22
B.A. Third Year
ECONOMICS
SEMESTER – VI
MATHEMATICAL ECONOMICS -II (Optional)
DSE – ECO - XI

Credits: 03 **Periods: 55** **Marks: 75**

Marks : 75 = Theory (ESE) 50 + Internal (CA) 25

Course Outline :

This course explain the theories of micro and macro economics with the help of statistics and mathematics. With the help of this course, the work of imparting knowledge of Economics to the students are more accurately. This course has been chosen to make the students understand more about the subject of Economics. This course studies analysis of variance for statistics and Maxima - minima, co-ordinate geometry, theory of consumer behavior and theory of production for mathematical analysis.

Course objectives :

1. To explain the basic mathematical concepts to students.
2. To explain theories of Economics using mathematics and statistics.
3. To facilitate understanding of the basic concepts of Economics with the help of mathematics and statistics.

Course utility :

1. Students will understand basic economic concept with the help of this course.
2. This course is important to prepare the background for the post graduate course in Economics.
3. Student who study this course will be eligible for MBA course in the future.
4. This course will be useful for preparation of competitive exam.
5. With the help of this course, the basic economic concept of the student will become clearer.

Course content:

Unit 1: Analysis of Variance **Periods : 10**

1.1 Meaning of Analysis of Variance.
1.2 Assumption in Analysis of Variance.
1.3 Techniques of Analysis of Variance - One Way Classification.

Unit II : Maxima and Minima **Periods : 10**

2.1 Maximum and Minimum Values of a Function.
2.2 Order conditions for Maximum and Minimum Values - Necessary Condition and Sufficient Condition.
2.3 Estimate the Maximum and Minimum Value for the Given Equation.

Unit III : Co-ordinate Geometry **Periods : 10**

3.1 Meaning of Quadrants
3.2 The distance formula or distance between two points
3.3 Slope of straight line.
3.4 Difference forms of equation of a straight line.

Unit IV : Theory of Consumer Behavior **Periods : 12**

4.1 Utility function - Introduction.
4.2 Cardinal Utility Function - Theory and examples.
4.3 Estimation of price elasticity of demand.

Unit V : Theory of Production **Periods : 13**

5.1 Concept of production function.
5.2 Cobb Douglas production function and its properties.
5.3 Optimum combination of factors.
5.4 Concepts of cost and revenue function and their interrelationship.

Books Recommended :

1. Allen,R. G. D. (1974) Mathematical Analysis for Economist, Macmillan Press and ELBS, London.
2. Koutsoyiannis A. (1979), Modern Microeconomics,Macmillan Press London.
3. Mehta B. C. and Madnani G. M. K., Mathematics for Economics , S. Chand Publication, New Delhi.
4. S. P. Gupta, (1995) Statistical Methods,Ssultan Chand and Sons Publication, New Delhi.
5. Chiang A. C. (1986), Fundamental Methods of Mathematical Economics , McGraw Hill, New York.
6. HendersonJ. M. and R.E. Quandt (1980) Microeconomics Theory : A Mathematical Approach,McGraw Hill, New York.
7. प्रा. राम देशमुख (2011), मूलभूत सांख्यिकी, विद्या प्रकाशन, नागपूर.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER – VI

INTERNATIONAL ECONOMICS (Optional)

DSE – ECO - XI

Credits: 03 **Periods: 55** **Marks: 75**

Marks : 75 = Theory (ESE) 50 + Internal (CA) 25

Course Outline:

An introduction to major issues in international trade and finance as well as the conceptual frameworks for understanding these issues.

Course Objective:

1. To know the principle of comparative advantage theory.
2. To know the balance of payments accounting and the valuation effect.
3. To know the international financial institutions.
4. The policy tools available to government that can be applied to international trade.

Course Utility :

International Economics is an exciting and dynamic subject that equips students with the tools which to tackle important real world issues in this age of globalization and financial integration.

Course Content :

Unit I **Nature of International Trade :** **Periods 10**

1.1 Meaning and salient features of International Trade.

1.2 Difference between Domestic Trade and International Trade.

Unit-II **Theories of International Trade :** **Periods 10**

2.1 Advantages and Disadvantages of International Trade.

2.2 Theories of International Trade – Theory of Comparative Cost, Modern theory of trade.

Unit III - **Balance of Trade and Balance of Payments:** **Periods 10**

3.1 Meaning and Features of Balance of Trade and Balance of Payments.

3.2 Structure of Balance of Payments, Equilibrium and Disequilibrium in the Balance of Payments, Importance of Balance of Payments.

Unit – IV India's Foreign Trade : Periods 10

4.1 Growth and Structure of India's Foreign Trade since 1991,

4.2 Foreign Trade Policy 2009-2014.

Unit V – International Institutions: Periods 15

3.1 International Monetary Fund.

3.2 World Bank.

3.5 WTO

Books Recommended :

1. Kindleberger C.P.(1973) International Economics, R.D. Irwin, Homewood.
2. Roy P.N. (1986), International Trade Theory and Practice New Age International Publishers, New Delhi.
3. Chacholiades M., (1990), International Trade : Theory and Policy, McGraw Hill, Kogakusha Japan.
4. Soderstone and Reed (1994), International Economics Macmillan Press Ltd London.
5. Datt R. and K.P.M. Sundaram (2014), Indian Economy S.Chand and Co.Ltd; New Delhi.
6. Misra S.K. and V.K. Puri (2014), Indian Economy its Development Experience, Himalaya Publishing House Mumbai.
7. ‹ÃÖ.¾Æüß. œü´Öœêü¸êü (2015), †ÖÓŸÖ¸ü¸üÖÂ™ÒüßµÖ†£ÖÔ¿ÖÖ¡Ö¸›üÖµÖ´ÖÓ› ¯ÖÛ²»Ö êú¿Ö-ÃÖ, ¯Öã Öê
8. •Öß.‹-Ö. —ÖÖ´Ö¸êü (2013), †ÖÓŸÖ¸ü¸üÖÂ™ÒüßµÖ¾µÖÖ¯ÖÖ¸ü†Ö× Ö ×¾Ö¢Ö, ×¯Ö´¯ÖôûÖ¯Öã¸êü¯ÖÛ²»Ö êú¿Ö-ÃÖ, -ÖÖ Ö¯Öæ¸ü
9. ‹´Ö.‹»Ö. Ø—Ö Ö-Ö (2008), †ÖÓŸÖ¸ü¸üÖÂ™ÒüßµÖ †£ÖÔ¿ÖÖ¡Ö,-Ö¾Öß×¤ü»»Öß.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER – VI

PUBLIC FINANCE - GE – ECO - XII

Credits: 03 **Periods: 55** **Marks: 75**

Marks : 75 = Theory (ESE) 50 + Internal (CA) 25

Course Outline:

This course discusses the financial aspect of Indian Economy hence this Paper is Next part of Indian Economy paper. The course covers different concepts of public finance i.e. Public finance, Fiscal Policy, Budget & Deficits.

The paper includes explanation of Public Revenue & Public Expenditure, Hence students will understand the imbalance between Public Revenue & Public Expenditure. It will clarify the concept of deficit. This Paper also discusses Centre & State financial relations in India. It has been extended to the overview of recent finance commission.

Course Objectives :

The specific objectives of the course are -

1. To introduce financial aspect of Indian Economy.
2. To discuss various concepts of public finance.
3. To analyze tax system of Indian Economy.
4. To know more about imbalance between public revenue and public expenditure.
5. To discuss center and state financial relations in India.

Course Utility :

1. Student will able to analyze different concept of public finance.
2. The student will understand the imbalance between public revenue and public expenditure.
3. The students will suggest various measures to decrease deficit.
4. The student will be able to evaluate working of recent finance commission.

Course Content :

Periods-10

Unit-I **Public Finance :**

1.1 Public Finance - Meaning, Nature, Scope.

1.2 Fiscal Policy – Concept, Objectives and instruments.

Unit-II **Public Revenue:** **Periods-10**

2.1 Sources of Public Revenue - Union and States.

2.2 Taxation - Concept- (Impact of Tax, Shifting of Tax & Incidence of Tax), Types of Taxes in India, Goods and Services Taxes.

Unit-III **Public Debt and Expenditure :** **Periods-10**

3.1 Public Debt – Sources of Public Debt.

3.2 Public Expenditure – Components and causes of increasing public expenditure.

Unit-IV **Budget :** **Periods-10**

4.1 Budget – Meaning, types and Importance.

4.2 Deficit Financing – Components and causes of increasing deficits.

Unit- V **Federal Finance :** **Periods-15**

5.1 Centre- State Financial Relations in India – Fiscal imbalance

5.2 Functions of Finance Commission

5.3 Overview of Recent finance Commission. (Resource transfer from Union to States

Books Recommended :

1. Buchanan J.M. (1970), The Public Finance, Richard D. Irwan, Homewood.
2. Atkinson A.B. and J.E. Silitz (1980), Lectures on Public Economics, Tata MacGraw Hill, New Delhi.
3. Singh S.K. (1986) Public Finance in Developed and Developing Countries, S.Chandand Company Ltd. New Delhi.
4. Richard A. Musgrave (1989), Public Finance in theory and practice MacGraw Hill Book Company, New York.
5. Jha H. (1998), Modern Public Economics, Routledge, London.
6. Mithani D.M. (1997) Money, Banking, International Trade and Public Finance (10th Edition), Himalaya Publishing House, Mumbai
7. Misra&Puri (2012), Indian Econony (30th Edition) Himalaya Publishing House, Mumbai.
8. Dr. Tyagi B.P., Public Finance, Jai PrakashNath Pub. Meerat (UP)
9. Mithani D.M. Principles of Public Finance and Fiscal Policy Himalaya Publishing House, New Delhi.
10. GauravDatt&AshwiniMahajan, DattSundram's Indian Economy; S.Chand and Sons Co.Ltd;New Delhi.
11. AshuthoshRaravikar, Fiscal Deficit and Inflation in India, Macmillan India Ltd, New Delhi.
12. Singh S.k., Public Finance in Theory &Practise, S.Chand and Sons Company Ltd; New Delhi.
13. Bhatia H.L. Public finance. VikasPublishilg House Pvt.Ltd,Delhi.
14. ·Öê. ‹±ú. ¯ÖÖ™üß»Ö, ÃÖÖ¾ÖÔ·Ö×-Ö ú †£ÖÔ úÖ,ü Ö, ±ú›ü êú ¯ÖÏ úÖ¿Ö-Ö, úÖê»ÆüÖ¯Öã,ü.
15. ,Óü·Ö-Ö úÖêôÓû²Öê, ³ÖÖ,üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ³Ö Öß,ü£Ö ¯ÖÏ úÖ¿Ö-Ö, ¯Öã Öê. 2017-18.
16. × ú,ü Ö ·Öß. ¤êüÃÖ»Öê, Ã¯Ö¬ÖÖÔ ¯Ö,üß ÖÖÃÖÓ¯Öã ÖÔ †£ÖÔ¿ÖÖÃ¡Ö, ¤üß¯ÖÃŸÖÓ³Ö ¯ÖÏ úÖ¿Ö-Ö, ·Öôû ÖÖ¾Ö.
17. ¯ÖÏ×ŸÖµÖÖê× ÖŸÖÖ ¤ü¯ÖÔ Ö, ³ÖÖ,üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, ×Æü-¤üß ´ÖÖ×ÃÖ ú, †Ö ÖÏÖ.
18. úÏÖò×-Ö ú»Ö, ³ÖÖ,üŸÖßµÖ †£ÖÔ¾µÖ¾ÖÃ£ÖÖ, (×Æü-¤üß/Eng), Chronicle Publication, Noida.
19. सु.रा.ओझरकर,राजस्व, विद्याप्रकाशन, नागपूर.
20. सुर्यकांत पवार (२०१४) भारतीय अर्थव्यवस्था,स्वयंदिपप्रकाशन, पूणे.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

With Effect From 2021-22

B.A. Third Year

ECONOMICS

SEMESTER – VI

SKILL ENHANCEMENT COURSE

ENTREPRENEURSHIP DEVELOPMENT- SEC-IV

Credits: 02 Periods: 45 Marks: 50

	Marks: 50 =(CA) 25 + (ESE) 25	
	Entrepreneurship Development	
	Course outline: The course is designed to provide the knowledge, skills and attitudes in entrepreneurship development that will meet the needs of a developing economy. On completion of this syllabus the students will gain knowledge and comprehension for the development and application of ideas for entrepreneurship. **Course Objectives:** The Specific objective of the course is: ✓ Acquiring entrepreneurship spirit and resourcefulness. ✓ Familiarization with various uses of human resource for earning dignified means of living. ✓ Understanding the concept and process of entrepreneurship- its contribution and role in the growth and development of individuals and the nation. ✓ Acquiring entrepreneurial quality, competency and motivation. ✓ Learning the process and skills of creation and management of entrepreneurial venture. **Course Utility :** On completion of the course, the student shall be able to : ✓ Understand the concept of entrepreneurship and its functions. The student will also be able to describe the process of entrepreneurship. ✓ Explain the competencies of an entrepreneur. ✓ Understand the meaning and ways of generating ideas and able to prepare a business plan. ✓ Understand the reasons for success and failure of a business plan. ✓ Identify the various support structure available for promoting entrepreneurship	

	Course Content :	Periods
Unit: I	**Entrepreneurship: Introduction :** • Entrepreneurship- Concept, Process • Types of Entrepreneurs, Competencies and Characteristics; Values, Attitudes and Motivation of an entrepreneur. • Risk, Innovations and Entrepreneurial Ventures, The role of technology/ social media and Entrepreneurial Ventures	10
Unit: II	**Entrepreneurship Journey :** • Generation of Ideas. • Market Survey: Concept, Importance and Process • Business Plan Preparation • Resource Mobilization • Execution of Business Plan • Marketing • Income Statement, Cash flow Projections • Role of Family and Government in the growth of an entrepreneur. • Challenges faced by women in Entrepreneurship.	10
Unit: III	**Case Studies of selected Indian Entrepreneurs :** • G.D. Birla • DhirubhaiAmbani • N.R. Narayana Murthy • PrakashRathi – Paper Mill, Nanded • Ram Bhogale- Nirlep, Aurangabad	10
	Skill Development Activities(Any Five of the following) 1. Prepare a chart showing the process of setting up a business. 2. Prepare a business model/plan in the interested business. 3. Conduct a structured interview with successful entrepreneur in your area/town. 4. Visit to the District Industry Centre (DIC) and submit the report. 5. Learn to earn in the college annual gathering function or any other day(only one day) and submit report. 6. Prepare a report on the fixed cost, variable cost and breakeven point in the interested business venture. 7. Visit to a business venture and prepare an income statement and cash flow projection of the business. 8. Work for a day with the entrepreneur and prepare report the learning. 9. Take and submit a structured interview of your parents to know their views if you start a venture. 10. Write a report on the successful entrepreneur from your area. 11. Report on the use social media for your business development.	15

Books Recommended :

1. Business Maharajas, Gita Piramal, Penguin India, 2011
2. Business Legends, Gita Piramal, Penguin India, 2010
3. Entrepreneurship and Small Business Management, C.B. Gupta and S.S. Khanka, Sultan Chand Publications, 2012
4. Entrepreneurship Development, Taneja and Gupta, GalgotiaPublishing company, 2nd ed. 2012
5. India Inc. How India's Top Ten Entrepreneurs are Winning Globally, VikasPota, Nicholas Brealey publishing,2010
6. I Too Had A Dream, VergheseKurien, Lotus, 2005
7. How Entrepreneurs use Social Networks in their Business byArmanUdDowlahttps://stud.epsilon.slu.se/3300/1/Dowla_a_111003.pdfprof

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

ACADEMIC (1-BOARD OF STUDIES) SECTION

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मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१७–१८ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३ मे २०१७ रोजी संपन्न झालेल्या ३८व्या मा. विद्या परिषद बैठकीतील विषय क्र.१२४/३८–२०१७** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१७–१८ पासून लागू करण्यात येत आहेत.

१) बी.ए./बी.कॉम./बी.एस्सी.–इंग्रजी (अनिवार्य, द्वितीय भाषा अतिरिक्त, ऐच्छिक)–द्वितीय वर्ष
२) बी.ए.–हिंदी (ऐच्छिक)–द्वितीय वर्ष
३) बी.ए./बी.कॉम./बी.एस्सी.–कन्नड (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
४) बी.ए./बी.कॉम./बी.एस्सी.–मराठी (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
५) बी.ए./बी.कॉम./बी.एस्सी.–पाली (द्वितीय भाष, ऐच्छिक)–द्वितीय वर्ष
६) बी.ए./बी.कॉम./बी.एस्सी.–संस्कृत (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
७) बी.ए./बी.कॉम./बी.एस्सी./बी.एफ.ए./बी.एस.डब्ल्यू–उर्दू (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
८) बी.ए.–फॅशन डिझाईन–द्वितीय वर्ष
९) बी.ए.–अर्थशास्त्र–द्वितीय वर्ष
१०) बी.ए.–भूगोल–द्वितीय वर्ष
११) बी.ए.–इतिहास–द्वितीय वर्ष
१२) बी.ए.–मानव हक्क–द्वितीय वर्ष
१३) बी.ए.–ग्रंथालय व माहितीशास्त्र–द्वितीय वर्ष
१४) बी.ए.–जनसंवाद व पत्रकारिता–द्वितीय वर्ष
१५) बी.ए.–सैनिकशास्त्र–द्वितीय वर्ष
१६) बी.ए.–तत्त्वज्ञान–द्वितीय वर्ष
१७) बी.ए.–राज्यशास्त्र–द्वितीय वर्ष
१८) बी.ए.–मानसशास्त्र–द्वितीय वर्ष
१९) बी.ए.–लोकप्रशासन–द्वितीय वर्ष
२०) बी.ए.–समाजशास्त्र–द्वितीय वर्ष

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/८४
दिनांक : ०७.०६.२०१७.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणि (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, यू.जी.सी. कक्ष, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS

ECONOMICS

Semester Pattern

(Choice Based Credit System)

B.A. Second Year

(With effect from 2017-18)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS) Course Structure

Faculty of Social Science

B.A. Second Year Syllabus

Semester Pattern effective from 2017-18

Subject: **Economics**

Semester	Core Course	Paper No	Name of Paper	Lectures / week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester III	ECO	V	Macro Economics	4	55	35	40	75	3
	ECO	VI	Statistical Methods-I **OR** Economics of Development	4	55	35	40	75	3
	SEC-I		Cashless Transactions	3	45	25	25	50	2
	Total			11	155	95	105	200	8
Semester IV	ECO	VII	Banking	4	55	35	40	75	3
	ECO	VIII	Statistical Methods-II **OR** Development and Environmental Economics	4	55	35	40	75	3
	SEC-II		Data Collection	3	45	25	25	50	2
	Total			11	155	95	105	200	8
Grand Total (Sem. III & IV)				**22**	**310**	**190**	**210**	**400**	**16**

SEC = Skill Enhancement Course

Swami Ramanand Teerth Marathwada University, Nanded
CBCS - Paper Pattern in the Subject ofEconomics

B.A. Second Year

(Effective from 2017-2018)

Semester-III

Paper No	Title of the Paper	Continuous Assessment (C.A.)	End of Semester Examination (E.S.E.)
V	Macro Economics	**35**	**40**
VI	Statistical Methods-I **OR** Economics of Development	**35**	**40**
SEC-I	Cashless Transaction	**25**	**25**

Semester - IV

Paper No	Title of the Paper	Continuous Assessment (C. A.)	End of Semester Examination (E.S.E.)
VII	Banking	**35**	**40**
VIII	Statistical Methods-II **OR** Development and Environmental Economics	**35**	**40**
SEC-II	Data Collection	**25**	**25**

Core Course:

1) **Continuous Assessment (C. A.)**: 35 Marks (Two class test each for 10 marks + one home assignment for 15 marks)
2) **End of Semester Examination (E.S.E.)**: 40 Marks

SEC: Skill Enhancement Course

1) **Continuous Assessment (C. A.)**: 25 Marks (To compete any five Skill Development Activities from the prescribed syllabus, each activity for 05 marks)
2) **End of Semester Examination (E.S.E.)**: 25Marks.

End of Semester Examination (ESE)
Question Paper Pattern
With Effect from 2017-2018

A) Core Course (CC):

*	MCQ (Multiple Choice Questions) 10 question,each for one mark.	10 Marks
Q. 1	Descriptive question OR Descriptive question	10 Marks
Q. 2	Descriptive question OR Descriptive question	10 Marks
Q. 3	Write short noteson (any two). i) ii) iii) iv)	10 Marks

B) Skill Enhancement Course (SEC):

Q. 1	Descriptive question OR Descriptive question	10 Marks
Q. 2	Descriptive question OR Descriptive question	10 Marks
Q. 3	Write short notes on (any one). i) ii) iii)	05 Marks

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
ECONOMICS
(With Effect from 2017-18)
B.A. Second Year
SEMESTER - III
Macro Economics (Paper-V)

Credits: 03 Periods: 55 Marks: 75

Course Rationale:

The present paper discusses national income and elaborates its meaning, importance and features. It also introduces the concepts like GNP, NNP, GDP, Personal Income, Disposable Income and Per Capita Income. Further, it numerates the measuring methods of national income and difficulties in it.

It studies theory of money, illustrating its definitions, functions and importance as well as value and measurement. Not only it focuses on quantitative theories of money of Fisher and Cambridge approach but also covers business cycle, its meaning, characters and phases; including Keynesian theory.

The paper includes the classical theories of employment of Say's Law of market and Keynesian theory of income and employment. It is extended to the concept of consumption and other elements.

Course Content **Periods**

Unit - I National Income: **15**

1. Meaning, Features and Importance of National Income
2. Concepts of GNP, NNP, GDP, Personal Income, Disposable Income, Per Capita Income
3. Measuring Methods of National Income; Difficulties in Measurement of National Income

Unit - II Theory of Money and Business Cycle: **20**

1. Definitions, Functions and Importance of Money.
2. Value of Money and its Measurement.
3. Quantitative Theory of Money - Fisher's Transaction Approach, Cambridge Cash Balance Approach.
4. Business Cycle - Meaning, Characteristics and Phases of Business Cycle, Keynesian Theory of Business Cycle.

Unit - III Theory of Income and Employment **20**

1. The Classical Theory of Employment - Say's Law of Market, Keynesian Theory of Income and Employment.
2. The concept of Consumption Function, Investment Function, Marginal Efficiency of Capital, Multipliers and Acceleration.

Recommended Books:

1. Hanson, A.H. (1953), A Guide to Keynes, McGraw Hill, New York.
2. Dillard, D. (1960), The Economics of John Maynard Keynes; Cross by lock wood and sons, London.
3. Acklcy, G (1976), Macro Economics: Theory and Policy, Macmillan Publishing Company, New York.
4. Gupta, S.B. (1994) Monetary Economics, S. Chand and Co. Delhi.
5. Shapiro, E. (1996), Macro Economics Analysis, Galgotia Publications. New Delhi.
6. Lewis, M.K. and P.D. Mizan (2002), Monetary Economics, Oxford University Press, New Delhi.
7. Anuja H.L. (2002), Macro Economics, Theory and Policy; S. Chand and Co. Ltd., New Delhi.
8. Jhingan M.L. (2009), Macro Economic Theory, Vrinda Publications (P) Ltd, Delhi.
9. N. Gregory Mankiw (2010), Macro Economics, Cengage Learning India Private Limited, New Delhi, 7th Edition.
10. Dornbusch, Fischer and Startz (2010) Macro Economics, McGraw Hill, 11th Edition.
11. Mithani, D.M. (2016), Macro Economics, Himalaya Publishing House Pvt.Ltd, Mumbai.
12. ¿ोळके माधव (1987), स्थूल अर्थशास्त्र, पिंपळापुरे अँड कं. पब्लिशर्स, नागपूर.
13. तुपेसु.दा, पेडगावकर श्रीराम (1992), स्थूल अर्थशास्त्र, सविता प्रकाशन, औरंगाबाद.
14. सोळुंके आर.एस., पाटील के.के. (1994), स्थूल अर्थशास्त्र, गोमटेश प्रकाशन, परभणी
15. ठक्कर के.एच. (1998), स्थूल अर्थशास्त्र, फडके प्रकाशन, कोल्हापूर.
16. डॉ.तिकटे, मुक्टे (2011), स्थूल अर्थशास्त्र, अरुणा प्रकाशन, लातूर
17. ¯Ö¾ÖÖ¸¦ <ÃÖ.™ß. (2014), स्थूल अर्थशास्त्र, प्रवर्तन प्रकाशन, लातूर
18. जाधवर आर.डी. (2014), समग्रलक्षी †£Ö¿Öास्त्र, अथर्व प्रकाशन, पुणे.
19. वाणी नीता (2016), स्थूल अर्थशास्त्र, प्रशांत पब्लिकेशनÃÖ, जळगाव.
20. खटाळ बी.जी. (2016), स्थूल अर्थशास्त्र, प्रशांत पब्लिकेशनÃÖ, जळगाव.
21. काकडे जे.एम. (2016), स्थूल अर्थशास्त्र, ÁÖßसाईनाथ प्रकाशनÃÖ, नागपूर
22. ¯ÖÖ.¸ÖµÖखेलकर, डॉ.दामजी, स्थूल अर्थशास्त्र व सार्वजनिक वित्त, विद्या बुक्स पब्लिशर्स, औरंगाबाद.
23. –ÖÖ´Ö¸¦•ÖßÖ.<´Ö.,Ã£Ö»Ö †£Ö¿ÖÖÃ¡Ö, Ø¯Ö¯ÖôÖ¯Ö¸¦ अँड कं. ¯Ö²»Ö¿ÖÃÖ, नागपूर

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effect from 2017-18)

B.A. Second Year

SEMESTER - III

Statistical Methods-I (Paper-VI)

Credits: 03 Periods: 55 Marks: 75

Course Rationale:

The present paper is designed to expose the students to the basic statistical methods of economics. The emphasis is on definition, function, importance and limitations. The paper illustrates the role of Data collection and frequency distribution. It will clarify the difference between primary and secondary data. The course also looks at the measures of central tendency.

Course Content	**Periods**
Unit-I Introduction:	**15**
Definition, Scope, Functions of Statistics.	
Importance and Limitations of Statistics.	
Unit-IIData Collection and Frequency Distribution	**20**
Primary data: Methods of Collecting Primary data.	
Secondary data: Sources of Secondary data	
Classification, Seriation and Tabulation and Presentation of data.	
Unit-III Measures of Central Tendency	**20**
Mean, Median, Mode, Quartiles, Deciles and Percentiles.	

Recommended Books:

1. Croxfon, F.E., Cowden D.J. and Kleins (1973), Applied General Statistics, Prentice Hall, New Delhi.
2. Allen, R.G.D. (1974), Mathematical Analysis for Economists, MacMillan Press, London.
3. Speigal, M.R. (1992), Theory and problems of statistics, McGraw Hill Book, London
4. Gupta, S.C. and Kapoor V.K. (1993), Fundamentals and Applied Statistics, Chand and Sons, New Delhi.
5. देशमुख राम (2005), मुलभूत सांख्यिकी, विद्या प्रकाशन, नागपूर.
6. महाजन वायआर. (2005), सांख्यिकी, पिंपळापूरे अँड कं. पब्लिशर्स, नागपूर.
7. खटाळ बी.जी. (2012), सांख्यिकीय पध्दती, प्रशांत पब्लिकेशनÃ0, जळगाव
8. कोलते एस.एम. (2013), सांख्यिकी तत्व आणि व्यवहार, पिंपळापूरे अँन्ड कं.पब्लिशर्स, नागपूर
9. ¿0%00ô¡, ¯0%00¸, शबनम (2016), संख्यात्मकतंत्रे व संशोधन पध्दती, विद्या बुक्स ¯00²»0¿0Ã0, औरंगाबाद.
10. कदमविश्वास (2014), सांख्यिकीपध्दती, कैलाशपब्लिकेशन्स, औरंगाबाद.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effective from 2017-18)

B.A. Second Year

SEMESTER - III

Economics of Development(Paper-VI)

Credits: 03 Periods: 55 Marks: 75

Course Rationale:

This paper deals with the concepts of Economic Development and Economic Growth explaining the differences between them. It also throws light on the indicators of Economic Growth and measurements of Economic Developments.

This paper enables students to acquaint not only with classical theories but also introduces them with other theories of Economic Development. Furthermore, it highlights the factors in Economic Development process such as, Natural Resources, Population, Saving, Capital formation and so on.

Course Content **Periods**

Unit-I Economic Development and Growth: **15**

1. Concept of Economic Development - Meaning and Measurement of Economic Development
2. Concept of Economic Growth - Indicators of Economic Growth.
3. Difference between Economic Development and Economic Growth.

Unit-II Theories of Economic Development: **20**

1. Classical Theories - Adam Smith, Ricardo and Malthus
2. Karl Marx's Theory of Economic Development.
3. Rostow's Stages of Economic Growth
4. Lewis's theory of Unlimited Supply of Labour.

Unit-III Factors in the Development Process: **20**

1. Natural Resources - Renewable and Non-renewable
2. Population - Theory of Optimum Population
3. Saving - The Role of Savings in Economic Development
4. Capital Formation - Reasons of Low Rate of Capital Formation in Underdeveloped Country.

Recommended Books:

1. Schumpeter J.A. (1934), The Theory of Economic Development, Harvard University Press Cambridge.
2. Lewis W. Arthur (1954), Economic Development with Unlimited Supply of Labour, the Manchaster School.
3. Robinson Joan (1957), An Essay on Marxian Economics, Macmillan and Co. London.
4. Rostow W.W. (1962), The stages of Economic Growth, Cambridge University Press, London.
5. Nurkse Ragnar (1973), Problems of Capital Formation in Underdevelopment countries, Oxford University Press, Delhi.
6. Jhingan M.L. (1973), the Economic of Development and Planning, Vikas Publishing House, New Delhi.
7. Misra S.K., Puri V.K. (XIV Edition 2012), Economics of Development and Planning, Himalaya Publishing House, New Delhi.
8. गायकवाड ज.पा., अशोक बोरीकर (1976), आर्थिक विकास आणि आर्थिक नियोजन, विद्या प्रकाशन, नागपूर
9. पत्की अ.द., साबळे म.ना. (1991), विकासाचे अर्थशास्त्र आणि नियोजन, विद्या बुक्स पब्लिशर्स, औरंगाबाद.
10. कुरुलकर र.पु., अरविंद एकताटे (1991), विकासाचे अर्थशास्त्र, विद्या प्रकाशन, नागपूर.
11. कुमानाचे पी.आर. (1992), विकासाचे अर्थशास्त्र आणि नियोजन, कैलाश पब्लिकेशन्स, औरंगाबाद.
12. पत्की अशोक (1998), विकासाचे अर्थशास्त्र व नियोजन,विद्या बुक्स पब्लिशर्स, औरंगाबाद.
13. भोसले, काटे (1998), विकासाचे अर्थशास्त्र आणि नियोजन, फडके प्रकाशन, कोल्हापूर.
14. ×–मरे अलका (2004), विकास व पर्यावरणाचे अर्थशास्त्र, सुयश प्रकाशन, पुणे.
15. फडणविस मृणालिनी (2006), विकासाचे अर्थशास्त्र व सिध्दांत, विद्या प्रकाशन, नागपूर.
16. पाटील जे.एफ. संपा. (2007), वृध्दी व विकासाचे अर्थशास्त्र, फडके प्रकाशन, कोल्हापूर.
17. देशपांडेश्रीधर, देशपांडे विनायक (2010), भारतीय अर्थव्यवस्था, हिमालया पब्लिशिंग हाऊस, गिरगाव, मुंबई.
18. इंगळे बी.डी. (2010), विकास आणि पर्यावरणीय अर्थशास्त्र, अरुणा प्रकाशन, लातूर
19. पुरोहित वसुधा (2014), विकासाचे अर्थशास्त्र, विद्या बुक्स पब्लिशर्स, औरंगाबाद.
20. कदम विश्वास, गावंडे गणेश (2014), विकासाचे अर्थशास्त्र, कैलाश पब्लिकेशन्स, औरंगाबाद
21. इंगळेबी.डी. (2015), विकासाचे अर्थशास्त्र व नियोजन, अरुणा प्रकाशन, लातूर
22. वावरे अनिलकुमार, लोंढे मारुती (2015), विकास व नियोजनाचे अर्थशास्त्र, एज्युकेशन»ो ¯ÖÖ²»ो¿ÖÃÖ, औरंगाबाद.
23. ¯ÖगारÖ एस.के. (2015), आर्थिक विकास आणि नियोजन, प्रशांत पब्लिकेशन्स, जळगाव
24. ‘kokG ,-Vh- ¼2015½] ykdl[;k vkf.k vkfFkd fodkl] fo|korh idk’ku] ykrj

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effect from 2017-18)

B.A. Second Year

SEMESTER - III

Skill Enhancement Course

Cashless Transaction (SEC-I)

Credits: 02 Periods: 45 Marks: 50

CASHLESS TRANSACTIONS

Course Outline:

An introduction to Money and Banking and the role of banks in the economy, not only the students learn about traditional modes of payments but they are also able to know about the modern modes of payments which help in making cashless economy.

Aims and objectives of course:

The specific aims of this course are :

- ✓ To enable the students to understand various aspects of Cashless Transactions.
- ✓ To provide basic knowledge of Money and Banking systems.
- ✓ To identify key issues and problems in cash economy.
- ✓ To introduce the key economic concepts, required to analyse cashless transactions.
- ✓ To illustrate how the new modes of payments (cashless) can be made easy in cashless transaction.

Learning outcomes of course:

completed the essential reading and activities students should:

- ✓ Discuss Banking systems in existence and how they are structured
- ✓ Explain the relative importance of new modes of payments (cashless) in transactions.
- ✓ Discuss the main types of cashless instruments and the main techniques employed by banks.

	Course Content	Periods
Unit -I	**Nature and Significance of Money:** Money : Definition, Barter System, Evolution of Money, Characteristics and Functions of Money	**08**
Unit: II	**Evolution of Bank:** **Bank:** Definition, Evolution of Banking in India, Classification of Banks, Formalities and Procedures of Opening Accounts, Operation of Bank Accounts.	**08**
Unit: III	**Cashless Economy:** Meaning of Cashless Economy, Types and Modes of Payment of Cashless Economy, Advantages and Disadvantages of Cashless Economy, Challenges in Transforming Cashless India.	**08**
	SKILL DEVELOPMENT ACTIVITIES **(Any five of the following)** 1. Prepare a chart showing the functions of Money. 2. Prepare a chart showing the structure of any one of the new mode of payment like Paytm, UPI etc. 3. Prepare a specimen of any two new modes of payments. 4. Visit a bank and collect various slips, application etc. and fill it. 5. Visit a bank and collect information about the various Instruments of Cashless. 6. Find out the recent trends in use of cashless instruments and make a class room presentation. 7. Analyze the working of any cashless instrument. 8. Draft a report about Cashless experience in the Indian context. 9. Conduct a survey and enlist the retail shops and nature of transactions carried on in your locality with cashless. 10. Visit the retail shops in busy place of your locality and report the factors influencing the Cashless transaction.	**26**
		50

Recommended Books:

1. The Economics of Money, Banking, and Financial Markets (Addison-Wesley Series in Economics) by Frederic S. Mishkin, Seventh Edition, Published July 22nd 2005
2. Money And Banking by Dudley G. Luckett Paperback, 3rd Edition, Published 1984 by McGraw-Hill
3. The Theory and History of Banking: Charles Franklin Dunbar, Oliver Mitchell Wentworth Sprague, Henry Parker Willis Paperback, Large Print, Published Nabu Press.
4. Modern Banking In India: K.N. Subrahmanya, Deep & Deep Publications, New Delhi Bank Finance For Rural Development: L K Naidu, Ashish publishing house. Delhi.
5. Money and Banking: A.A.Walters, Harmondsworth, Penguin Education,
6. Money, Banking and International Trade: K.P.M.Sundharam, Sultan Chand & Sons, New Delhi.
7. Fundamentals of Banking: Rita S.Swami, Sheth Publishers, Mumbai.
8. Money, Banking, International Trade and Public Finance: D. M. Mithani, Himalaya Publishing House, Mumbai.
9. Reform of The Indian Banking System: S.L.N. Simha,Orient Longman Ltd, New Delhi.
10. Money banking international trade and public finance: M.L.Jhingan, Vrinda Publication, Delhi.
11. चांदूरकर, वि.वु. : मुद्राशास्त्र व मौद्रिक मीमांसा, विद्या प्रकाशन, नागपूर.
12. ´Ö•Ö, ³ÖÖ.ÆÖ. ¾Ö ¤¿Ö¯ÖÖ›¡, ÁÖß.†Ö. : मुद्रा सिध्दांत आणि व्यवहार, विद्या प्रकाशन, नागपूर.
13. खोलकुटे, आ.द. : मुद्रा उत्पन्न आणि रोजगार, आर्थिक आणि वाणिज्य प्रकाशन, नागपूर.
14. साबळे, ए.बी. व सहस्त्रबुध्दे, एस.बी. : मुद्रा आय राजस्व आणि आंतरराष्ट्रीय व्यापार, मंगेश प्रकाशन, नागपूर.
15. मेहता, पुरुषोत्तम : अभिनव मुद्राशास्त्र, जीवन प्रकाशन, नागपूर.
16. महाजन, मुकुंद : बँक व्यवसाय व वित्त पुरवठा, निराली प्रकाशन, पुणे.
17. कानेटकर, मेधा : पैशाचे अर्थशास्त्र, श्री साईनाथ प्रकाशन, नागपूर.
18. बोधनकर, सुधीर, कानेटकर, मेधा : पैसा, अधिकोषण, राजस्व आणि आंतरराष्ट्रीय अर्थशास्त्र, श्री साईन£Ö प्रकाशन, नागपूर.
19. रायखेलकर, ए.आर., दामजी, बी.एच. : मुद्र-अधिकोषण आणि सार्वजनिक वित्त, विद्या बुक्स पब्लिशर्स, औरंगाबाद.
20. बैरागी, के.पी., देसाई, रमेश : बँक व्यवसायाची मूलतत्वे, अथर्व प्रकाशन, पुणे.
21. कोलते एस.एम. : भारतीय बँकिंग प्रणाली, प्रशांत पब्लिकेशनÃÖ, जळगाव.
22. ¯ÖÖ™ß»Ö गंगाधर कायंदे, पैसा, बँकिंग आणि राजस्व, चैतन्य पब्लिकेशन्, नाशिक.
23. लांजेकर जगदीश : बँक व्यवसाय व वित्तपुरवठा, डायमंड पब्लिकेशन, पुणे.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
ECONOMICS
(With Effective from 2017-18)
B.A. Second Year
SEMESTER - IV
Banking (Paper-VII)

Credits: 03 Periods: 55 Marks: 75

Course Rationale:

This paper aims to illustrate the concept of Bank in detail emphasising meaning, function and evolution of banking system in India. It throws light on commercial banking and credit creation and their progress after nationalization of banking.

This paper also encompasses the definition, function and development of central bank. Further, the paper explores the pivotal financial institutions such as IDBI, NABARD, ICICI, EXIM etc. and their function and development. The paper also intends to make students aware of the current trends and reformations in banking services, for example E-banking, ATMs, Debit Cards, Educational Loan, Core Banking and other electronic services.

Course Content	**Periods**
Unit - I Commercial Bank	**15**
Meaning and Functions of Bank, Evolution of Banking System in India.Commercial Banking and Credit Creation. Critical appraisal and Progress ofCommercial Banking after Nationalization	
Unit - II Central Bank	**20**
Definition, Functions and Development ofCentral Bank, Credit Control - Meaning and Types.	
Unit - III Financial Institutions & Concepts	**20**
Regional Rural Banks, Functions and Development of IDBI, NABARD, ICICI, EXIM Bank.	
Recent reforms in Banking sector of India, Current trends in Banking services – e-banking, ATM, Debit Card, Credit Card, Core Banking, Education Loan, Types of Electronic Clearing Services	

Recommended Books:

1. ZhinganM.L.: Money, Banking and International Trade.
2. DesaiVasant : Central Banking and Economic Development.
3. Panandikar S.G.,Mithal D.M.: Banking in India.
4. Shekhar&Shekhar, Banking Theory and Practice, Vikas Publishing House, New Delhi.
5. Hatler, Banks Investment and Funds Management.
6. Mahajan, Mukund (2000), Indian Banking System, NiraliPrakashan, Pune.
7. Khan, M.Y. (2011), Indian Financial System, Tata McGraw Hill, 7th Edition.
8. Deshmukh, D.N.(2014), Indian Banking System, ChandralokPrakashan, Kanpur
9. Bhole, L.M., Mahukud (2011), Financial Institutions and Markets, Tata McGraw Hill, 5th Edition.
10. Mishkin, F.S., Eakings, S.G. (2009), Financial Markets and Institutions, Pearson Education, 6th Edition.
11. Various Latest Issues of RBI Bulletins Annual Reports, Reports on Currency and Finance & Reports of the Working Group.
12. पाटील के.के.,सोंडगे एम.एन. (1991), एमपीएससी, बँकिंग, कैला¿ पब्लिकेशन, औरंगाबाद.
13. जोशी, डांगे (1995), बँकिंग, फडके प्रकाशन, कोल्हापूर.
14. बोधनकर सुधीर, कानेटकर मेधा (2000), भारतीय बँकिंग प्रणाली, श्री साईनाथ प्रकाशन, नागपूर.
15. खंदारे विलास (2004), पैसा, बँकिंग आणि वित्त, प्रविण प्रकाशन, देवगाव (रं.) जि.औरंगाबाद.
16. रायखेलकरए.आर., ¤Ö´Ö•ÖÖ ²ÖÖ.<“Ö. (2004), ´Ö¦Ö-अधिकोषण आणि सार्वजनिक वित्त, विद्या बुक्स पब्लिशर्स, औरंगाबाद.
17. पुरोहित वसुधा, देव मंदाकिनी (2005), ´Ö¦Ö-अधिकोषण आणि सार्वजनिक वित्त, श्री विद्या प्रकाशन, पुणे.
18. बैरागी, के.पी. (2014), भारतीय बँक व्यवस्था, अथर्व प्रकाशन, पुणे.
19. सावळे एकनाथ, पाटील लक्ष्मण (2015), बँकिंग, अरुणा प्रकाशन, लातूर

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
ECONOMICS
(With Effective from 2017-18)
B.A. Second Year
SEMESTER - IV
Statistical Methods-II(Paper-VIII)

Credits: 03 Periods: 55 Marks 75

Course Rationale:

This paper is the second part of statistical methods for economics. The paper examines the measures of dispersion in terms of range, quartile deviation and co-efficient. It then studies correlation and time series, interpreting meaning, types and importance, applying Karl Pearson's method. This is followed by an introduction of index number illustrating the importance of Laspeyer, Passche and Fisher's methods.

Course Content	**Periods**
Unit-I Measures of dispersion:	**15**
Range, Quartile Deviation, Standard Deviation and its Co-efficient.	
Unit - II Correlation and Time Series Analysis	**20**
Meaning and types of Correlation,Importance of correlation - Simple Correlation-Karl Pearson's Method	
Meaning and Components of Time Series	
Unit-III Index Number:	**20**
Meaning and Definition. Methods of Construction of Index Number, Importance of Index Number, Laspeyer, Paasche and Fisher's Methods.	

Recommended Books:

1. Croxfon, F.E. Cowden D.J. and Kleins (1973), Applied general statistics, prentice Hall, New Delhi.
2. Allen, R.G.D. (1974), Mathematical Analysis for Economists, Macmilian Press, London.
3. Speigal, M.R. (1992), Theory and problems of statistics, McGraw Hill Book, London.
4. Gupta, S.C. and Kapoor V.K. (1993), Fundamentals and applied statistics, S. Chand & Sons; New Delhi.
5. M.C. Sukla, S.S. Gulshan, Statistics, S.Chand& Company Ltd., New Delhi.
6. कोलते एस.एम. (2013), सांख्यिकी तत्व आणि व्यवहार, पिंपळापूरे अँड कं. ¯ÖÏ¿»Ö¿ÖÃÖ, नागपूर
7. ¿Ö¾ÖÖôÖ¡, ¯Ö¾ÖÖ¸ü¡, शबनम (2016), संख्यात्मकतंत्रे व संशोधन पध्दती, विद्या बुक्स ¯ÖÏ¿»Ö¿ÖÃÖ, औरंगाबाद.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effect from 2017-18)

B.A. Second Year

SEMESTER - IV

Development and Environmental Economics (Paper-VIII)

Credits: 03 Periods: 55 Marks: 75

Course Rationale:

This paper glances rapidly on the term Economic Development only to understand the concept of Less Development Countries and their characteristics. It also gives emphasis on factors promoting to and obstacles of Economic Development.

This paper enables students to comprehend the role of agriculture and industrialization in Economic Development. Not only it illuminates the importance of infrastructure in Economic Development, but emphasises the importance of agricultural growth in globalization in terms of Economic Development. At times, it also brings in light the environmental concepts related with Economic Development such as pollution, sustainable development etc.

Course Content	**Periods**
Unit-I Economic Development: an overview	**15**
1. Concept of less developed countries.Characteristics of Less developed countries (LDC's)	
2. Factors promoting economic development	
3. Obstacles to economic development.	
Unit-II Sectoral view of Development	**20**
1. Role of Agriculture in Economic Development	
2. Role of Industrialization in Economic Development.	
3. Globalization and Agricultural growth.	
4. Infrastructure and its importance in Economic Development	
Unit-III Environment and Economic Development	**20**
1. Meaning of Environment, Importance of Environment in Economic Development	
2. Meaning of Pollution, types of Pollution - Causes and E.ffects	
3. Control of Environmental Pollution.	
4. Concept of Sustainable Development, Indicators of Sustainable Development.	

Recommended Books:

1. Dixon, John A. and Lovise A. Fallon (1989). "The Concept of Sustainability: Origins, Extensions and Peacefulness for Policy, Society and Natural Resources 2(2): 73-74.
2. Goodland R., Daly, H.E. and E.L. Serafy, S. (eds.) (1991).Environ mentally Sustainable Economic Development: Building on Brundtland, Washington, D.C., The World Bank, Environment Deptt. payer46, p.85.
3. Barry, Dalal - Clation(1992). Modified EIA and Inchators of Sustainability: First Step Towards Sustainability Analyst; World Bank Conference on Environment and Sustainable Development: Washington, D.C.
4. Barthwal, R.R. and Shukla, J.B. (1993). Technical Educations, Sustainable Development and the Environment : Proceedings of the National Seminar of the Indian Society for Technical Education, IIT, Kanpur, January 1993, Published by Allied Publications, New Delhi, 1994.
5. Barthwal, R.R. (1996). Environmentally Sustainable Development: The Conceptual Framework, Paper presented in the Seventy - ninth Annual Conference of Indian Economic Association Volume.
6. Furtado, Josel dos R. and Tamara Belt with RamchandraJammi (2000) : Economic Development and Environmental, Sustainability, WBI Learning Series, World Bank, Washington, D.C.
7. JGIDR Series (2000). Environment, Economics and Development, Environmental Governance - 5 Mumbai.
8. Kumar Ratnesh (2006), "Environmental Economics Theory & Practices" Deep &Deep Publication Pvt. Ltd. - F - 159, Rajouri Garden New Delhi - 110027.
9. R.K. Lekhi et.al (2008), Development and Environmental Economics, Kalyani Publishers, Ludhiana.
10. Charles, Kolstad (2010), Intermediate Environmental Economics, Oxford University Press, 2nd Edition.
11. खंदारे विलास (2005), विकास आणि पर्यावरणÃµÀ अर्थशास्त्र, कैलाश पब्लिकेशनÃÀ, औरंगाबाद.
12. ‘ÕÕ¸ÕÕ¸¡ ×¾À÷»À (2006), पर्यावरणशास्त्र, पिंपळापूरे अँड कं. पब्लिशर्स, नागपूर
13. इंगळे बी.डी. (2010), विकास आणि पर्यावरणÃµÀ अर्थशास्त्र, अरुणा प्रकाशन, लातूर.
14. दातीर आर.के. (2012), विकास आणि पर्यावरणाचे अर्थशास्त्र, निराली प्रकाशन, पुणे.
15. भोंग/दांगट/पाटÃ»À (2014), पर्यावरणाचे अर्थशास्त्र, सक्सेस पब्लिकेशनÃÀ, पुणे.
16. कुलकर्णी/दीक्षीत/सोंडगे/डिसले (2014), पर्यावरणशास्त्र, विद्या बुक्स पब्लिशर्स, औरंगाबाद.
17. वानखेडे दत्ता (2015), शाश्वत विकास, पÃबीडी पब्लिकेशन्स, पुणे

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
ECONOMICS
(With Effectfrom 2017-18)
B.A. Second Year
SEMESTER - IV
Skill Enhancement Course
Data Collection (SEC-II)

Credits: 02 Periods: 45 Marks: 50

Data Collection

Course outline:

The course will be given in the form of lectures and practical work. Lectures will focus on research, especially with regard to sampling methods, data collection and data preparation. The course will focus on the practical implementation of diverse sample techniques. Students are expected to collect and classify the data.

Aims and objectives of course:

- To develop the understanding of the basic concept of research.
- To develop the understanding of the basic framework of sampling and data collection..
- To develop the understanding of various sampling methods and techniques.
- To identify various sources of information for data collection.
- To develop the understanding of the conducting survey on various issues.

Learning outcomes of course:

On completion of the course, the student shall be able to

- Demonstrate his/her understanding of sampling methods and the ability to use collection of data
- Identify the appropriate sample techniques for different kinds of research questions
- Identify the appropriate source of data in relation to the collection of research data.
- Able to classify and present the collected data in the form of graph, bar diagram, chart etc.

	Course Content	Periods
Unit: I	Introduction to Research:Meaning, Objectives, Types and Significance, Research Problem and Steps of Research.	**06**
Unit: II	Techniques of Sampling: Census Method; Sample Survey- Methods of Sampling.	**06**
Unit: III	Methods of Data Collection: Meaning- Primary and Secondary data. Sources of Primary and Secondary Data,Methods of Collecting Primary and Secondary Data. Classification and Tabulation of data. Frequency Distribution and Graphical Presentation of data.	**12**
	SKILL DEVELOPMENT ACTIVITIES **(Any five of the following)** 1. Prepare a chart showing the steps of research. 2. Prepare a chart showing the sampling technique 3. Prepare Charts showing sources of primary data. 4. Prepare a chart showing sources of secondary data. 5. Collect the data relating to households income and prepare a graph. 6. Construct a questionnaire to measure student's attitude towards the purchase of two wheelers / readymade garments etc. 7. Administer the questionnaire you have developed on selected students (sample size of 10 students) in your college. Discuss any response related to Problems you encountered. 8. Collect the data related to any schemes of your locality and present in front of the students. 9. Illustrate the various types of samples with examples. 10. Construct a questionnaire for collection of primary data on any social issue.	**26**
		50

Recommended Books:

1. P.H. Karmel and M. Polasek (1978), Applied Statistics for Economists, 4th edition, Pitman.
2. M.R. Spiegel (2003), Theory and Problems of Probability and Statistics (Schaum Series).
3. Cochran, William, G. (2008), Sampling Techniques, Third Edition, Wiley-India, ISBN 978 -81-265-1524-0.Reprint: 2008.
4. Bethlehem, J. (2009), Applied Survey Methods: A Statistical Perspective, Wiley.
5. Uwe Flick (2012), Introducing Research Methodology: A Beginner's Guide to Doing a Research Project, Sage Publications.
6. S.P.Gupta (2012), Statistical Methods, 42nd edition, Sultan chand and sons.
7. Ranjit Kumar (2014), Research Methodology: A Step-by-Step Guide for Beginners, 4th Edition, Sage Publications.

८. डॉ. काचोळे दा.धो. (१९९३), सामाजिक संशोधन पध्दती, कैलास पब्लिकेशन्स, औरंगाबाद.

९. गन्देवार एस.एन. (२००४), समाजशास्त्रीय संशोधन पध्दती, विद्याभारती प्रकाशन, नागपूर.

१०. देशमुख राम (२००५), मुलभूत सांख्यिकी, विद्या प्रकाशन, नागपूर.

११. कुलकर्णी, ढमढेरे (२००७), अर्थशास्त्रीय संशोधन पध्दती, डायमंड पब्लिकेशन, पुणे.

१२. कायंदे पाटील (२००९), संशोधन पध्दती, चैतन्य पब्लिकेशन्स, नाशिक.

१३. डॉ. कऱ्हाळे बी.एम.(२०११), शास्त्रीय संशोधन पध्दती, पिंपळापूरे अँड कं. पब्लिशर्स, नागपूर.

१४. पाटील वा.भा. (२०१२), संशोधन पध्दती, प्रशांत पब्लिकेशन्स, जळगाव.

१५. करे बिभीषण, (२०१५), सामाजिक संशोधनाची मूलतत्वे, विद्या बुक प्रकाशन, नागपूर.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

ACADEMIC (1-BOARD OF STUDIES) SECTION

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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयातील सी.बी.सी.एस. पॅटर्नचा बी.ए. अर्थशास्त्र (प्रथम वर्ष) अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक १२ मे २०१६ रोजी संपन्न झालेल्या ३६व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.१०/३६–२०१६** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील सामाजिक शास्त्रे विद्याशाखेतील** खालील विषयाचा **सी.बी.सी.एस. पॅटर्नचा** अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्यात येत आहे.

१. बी.ए. अर्थशास्त्र (प्रथम वर्ष))

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक(१)/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/**१००८**
दिनांक : २५.०८.२०१६.

स्वाक्षरित/–
संचालक
महाविद्यालय व विद्यापीठ विकास मंडळ

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. परीक्षा नियंत्रक यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS

ECONOMICS

Semester Pattern

(Choice Base Credit System)

B.A. FIRST YEAR

(With Effective from 2016-17)

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS)

SEMESTER PATTERN

B.A. (UG) Programme under Faculty of Social Science

(Affiliated Colleges)

(With Effect from Academic Year 2016-17)

Name of the Faculty: **Social Science**

Total Credit: **158** Average Credits Per Semester**: 26**

Note:

- Assessment Shall Consist of Continuous Assessment (CA) and End of Semester Examination (ESE)
- Weightage : % for ESE & % for CA
- Each Paper is of 3 Credits
- **Paper- (Elective) Transfer of Credit as per Student choice.**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New scheme)

Faculty of Social Science

B. A. First Year Syllabus

Semester Pattern effective from 2016-17

Subject: Economics

Semester	Core Course	Paper No.	Name of Paper	Lectures / week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester -I	CCPOL-I	I	Micro Economic	4	55	35	40	75	3
	CCPOL-II	II	Co-operation OR Agricultural Economics	4	55	35	40	75	3
			Total - I	**8**	**110**	**70**	**80**	**150**	**6**
Semester-II	CCPOL-I	III	Micro Economics	4	55	35	40	75	3
	CCPOL-II	IV	Economy of Maharashtra OR Agricultural Economics	4	55	35	40	75	3
				8	**110**	**70**	**80**	**150**	**6**
			Total-I-II	**16**	**220**	**140**	**160**	**300**	**12**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New scheme)

Faculty of Social Science

B. A. second Year Syllabus

Semester Pattern effective from 2017-18

Subject: Economics

Semester	Core Course	Paper No.	Name of Paper	Lectures / week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester. III	CCPOL-I	V	Macro Economics	4	55	35	40	75	3
	CCPOL-II	VI	Statistical Methods-I OR Economics of Development and Planning	4	55	35	40	75	3
	SEC-I			3	45	25	25	50	2
		Total		**11**	**155**	**95**	**105**	**200**	**8**
Semester. IV	CCPOL-I	VII	Banking	4	55	35	40	75	3
	CCPOL-II	VIII	Statistical Methods-II OR Development and Environmental Economics	4	55	35	40	75	3
	SEC-II			3	45	25	25	50	2
				11	**155**	**95**	**105**	**200**	**8**
		Total		**22**	**310**	**190**	**210**	**400**	**16**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New scheme)

Faculty of Social Science

B. A. Third Year Syllabus

Semester Pattern effective from 2018-19

Subject: Economics

Semester		Paper No.	Name of Paper	Lectures / week	Total No.of Lectures	AC	ESE	Total Marks	Credits
Semester -V	CCPOL-A	IX	Indian Economy (Comp)	4	55	35	40	75	3
	CCPOL-B	X	History of Economical thought OR Mathematical Economics-I	4	55	35	40	75	3
	CCPOL-C	XI	Industrial Economics OR Quantitative Technique -I OR Urban Economics	4	55	35	40	75	3
	SEC-III			3	45	25	25	50	2
			TOTAL	**15**	**210**	**130**	**145**	**275**	**11**
Semester -VI	CCPOL-A	XII	Public Finance (Comp)	4	55	35	40	75	3
	CCPOL-B	XIII	International Economics OR Mathematical Economics-II	4	55	35	40	75	3
	CCPOL-C	XIV	Rural Economics OR Quantitative Technique – II OR Energy Techniques	4	55	35	40	75	3
	SEC-III			3	45	25	25	50	2
			TOTAL	**15**	**210**	**130**	**145**	**275**	**11**
			TOTAL (V-VI)	**30**	**420**	**260**	**290**	**550**	**22**

Structure of B.A. Programme under CBCS Pattern

Social Science & Arts& Humanities Faculty)

Semester	CORE COURSE (12)	Ability Enhancement Compulsory Courses (AEC) (8)	Skill Enhancement Courses (SEC) (4)	Discipline Specific Elective DSE (6)	Generic Elective (6)
	CC-A I- 6	1 .English - 3			
I	CC-B I-6	Communication			
Credits : 24	CC-C I-6	2. SL - 3			
II	CC- A II-6	1 .English - 3			
Credits : 24	CC- B II-6	Communication			
	CC- C II-6	2. SL - 3			
III	CC- A III-6	2 .English - 3	**SEC-I - 2**		
Credits : 26	CC- B III-6	Communication			
	CC- C III-6	3. SL - 3			
IV	CC- A IV-6	2 .English - 3	**SEC-II - 2**		
Credits : 26	CC- B IV-6	Communication			
	CC- C IV-6	3. SL - 3			
V				DSE- A I - 6	GE-A I – 3
Credits : 29			**SEC-III- 2**	DSE- B I - 6	GE-B I – 3
				DSE- C I - 6	GE-C I – 3
VI				DSE- A II- 6	GE-A II-3
Credits : 29			**SEC-IV- 2**	DSE- B II- 6	GE-B II-3
				DSE- C II- 6	GE-C II-3
Total Credits : 158	**No. Credits: 72**	**No. Credits : 24**	**No. Credits: 8**	**No. Credits: 36**	**No. Credits : 18**

Structure of B.A. Programme under CBCS Pattern

(Social Science & Arts& Humanities Faculty)

Semester	Course Opted	Course Name			Credits
	Ability enhancement compulsory	1		English Communication	3
I	course- I	2		SL	3
	Core Course A-I			Paper A & B	6
	Core Course B-I			Paper A & B	6
	Core Course C-I			Paper A & B	6
	Total Sem I				**24**
	Ability enhancement compulsory	1		English Communication	3
II	course- II	2		SL	3
	Core Course A-II			Paper A & B	6
	Core Course B-II			Paper A & B	6
	Core Course C-II			Paper A & B	6
	Total Sem II				**24**
	Total Sem I & II				**48**
Semester	**Course Opted**	**Course Name**			**Credits**
	Ability enhancement compulsory	1		English Communication	3
	course- III	2		SL	3
III	Core Course A-III			Paper A & B	6
	Core Course B-III			Paper A & B	6
	Core Course C-III			Paper A & B	6
	Skill enhancement course I			SEC-I	2
	Total Sem III				**26**
	Ability enhancement compulsory	1		English Communication	3
	course- IV	2		SL	3
IV	Core Course A-IV			Paper A & B	6
	Core Course B- IV			Paper A & B	6
	Core Course C- IV			Paper A & B	6
	Skill enhancement course- II			SEC-I	2
	Total Sem IV				**26**
	Total (Sem III & IV)				**52**
Semester	**Course Opted**	**Course Name**			**Credits**
	Discipline Specific Elective A-I	DSE A- I			6
	Discipline Specific Elective B-I	DSE B- I			6
	Discipline Specific Elective C-I	DSE C- I			6
V	Generic Elective GE -A I	GE -A I			3
	Generic Elective GE -B I	GE -B I			3
	Generic Elective GE -C I	GE -C I			3
	Skill enhancement course III	SEC-III			2
	Total Sem V				**29**
	Discipline Specific Elective A-II	DSE A- II			6
	Discipline Specific Elective B-II	DSE B- II			6
VI	Discipline Specific Elective C-II	DSE C- II			6
	Generic Elective GE -A II	GE -A II			3
	Generic Elective GE -B II	GE -B II			3
	Generic Elective GE -C II	GE -C II			3
	Skill enhancement course IV	SEC-IV			2
	Total Sem. VI				**29**
	Total (Sem. V & VI)				**58**
	Total Course Credit				**158**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

CBCS-*Paper Pattern in the Subject of*

ECONOMICS

B.A. First Year

(Effective from 2016-17)

SEMESTER-I

Paper No	Title of the Paper	Internal Marks	External Marks
I	Micro Economics (Comp)	35	40
II	Co-Operation OR Agricultural Economics	35	40
SEMESTER-II			
Paper No	**Title of the Paper**	**Internal Marks**	**External Marks**
III	Micro Economics (Comp)	35	40
IV	Economy of Maharashtra OR Agricultural Economics	35	40

1. **Internal Marks** 35 Marks

2. **External Marks** 40 Marks

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effective from 2016-17)

B. A. First Year

SEMESTER – I

Micro Economics Paper – I

Credits: 03 **Periods: 55** **Marks: 75**

Course Rationale:

This introductory Paper to the basic concepts of Economics, Ideas and theories in micro Economics. Its seeks explain the definition of Economics and nature as well as scope of Economics the different theories and analysis of Demand and supply. Theories like consumer behavior theory

Furthermore there is a need to analysis the continuing relevance of these concepts today and explain how in idea and theory is useful for contemporary Economics.

Course Content	**Periods**	**Marks**
Unit-I Basic Concepts of Economics	**15**	**15**

i) Definition of Economics (Adam smith, Marshall & Robbins), Nature and Scope of Economics.

ii) Micro and Macro Analysis.

Unit II- Demand and Supply Analysis	**20**	**30**

i) **Demand-**Law of Demand, Determinants of Demand

ii) **Elasticity of Demand-** Concept and Types of elasticity of demand; Price; Income and Cross elasticity; Determinants of elasticity of demand, Importance of elasticity of demand; Consumer's Surplus.

iii) **Supply-** Law of Supply. Determinants of Supply

Unit III- Theory of Consumer Behaviour	**20**	**30**

1. **Cardinal Utility Approach-** Concept of Utility, Assumptions, Law of Diminishing marginal utility.

2. **Ordinal Utility Approach-** Indifference curve, Properties, Consumer's equilibrium, Price, Income and Substitution effects.

Books Recommended

1. Robbins L.C. (1932) The Nature and significance of Economic Science, London, Macmillan VIII ed.
2. Meashall A. (1920) Principles of Economics Book I, London, Macmillan, VIIIed
3. Hicks J.R. (1939(Value and Capital Paper I, Oxford. Clarendon press (2nd Edn. 1946)
4. Samuelson P.A. (1948) Economics, New York : McGraw Hill
5. Boulding K.E. (1970) Economics as a science, McGraw Hill.
6. Dewett K.K. (1966) Modern Economic Theory, Micro and Macro Analysis S.Chand & Co.
7. Baumol W.J.(1977) Economic Theory and Operations Analysis prentice Hall
8. Robinson Joan (1969): Economic of Imperfect Competition, Macmillan
9. Chamberlin E.H.(1933): The Theory of Monopolistic Competition, Cambridge, M.A. Harvard University Press
10. Harvey J. (1988) Modern Economics, 5th edn. London : Macmillan
11. Bain J.S. (1953) Princing Distribution and Employment, New York, Holt Rhinc
12. Lipsey R.G. (1956) An Introduction of Positive Economics, Oxford University Press
13. Knight F.H. (1921) Risk Uncertainty ant Profit, New York, Houghton Mifflin
14. Rayn W.J.L. (1992) Price Theory, Macmillan
15. Jhingan M.L. (1999) Micro Economics Theory, Vrinda Publications Limited
16. Ahuja H.L. (1978) Principles of Micro Economics, S. Chand Limited
17. कृष्णराव पाटील - उच्यत्तर आर्थिक सिद्धांत, मंगेश प्रकाशन, नागपूर १९८८
18. मुक्ता जहागिरदार - आधुनिक सूक्ष्म अर्थशास्त्र, विद्या प्रकाशन, नागपूर २००५
19. गंगाधर कायंदे पाटील - अंशलक्षी अर्थशास्त्र, चैतन्य पब्लिकेशन, नाशिक २००३
20. ग.ना.झामरे - सूक्ष्म अर्थशास्त्र, पिंपळापूरे ॲन्ड कंपनी पब्लिशर्स, नागपूर २००२
21. राम देशमुख - सूक्ष्म अर्थशास्त्र, गीताई विवेक नगर, नांदेड १९९७
22. श्रीनिवास खांदेवाले - किंमत सिद्धांत, पिंपळापूरे ॲन्ड कंपनी पब्लिशर्स, नागपूर १९८९
23. रायखेलकर/खेडकर - सूक्ष्म अर्थशास्त्र, विद्या बुक्स पब्लिशर्स, औरंगाबाद १९९७
24. देशकर/आहेरवाडकर - सूक्ष्म अर्थशास्त्र, पिंपळापूरे ॲन्ड कंपनी पब्लिशर्स, नागपूर १९९०
25. सोळंके/तवार/कापसे - सूक्ष्म अर्थशास्त्र, कैलास पब्लिकेशन, औरंगाबाद, १९९३
26. विकास सुकाळे - सूक्ष्मलक्षी अर्थशास्त्र क्रिएटीव्ह पब्लिकेशन्स, नांदेड २०१३

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effective from 2016-17)

B. A. First Year

SEMESTER – II

Micro Economics Paper III

Credits: 03 **Periods: 55** **Marks: 75**

Course Content:	**Period**	**Marks**
Unit I - Theory of Production, Cost and Revenue	**15**	**15**

A. **Production Function:** Concept of Production Function, The Law of Variable Proportion, Law of Returns to Scale.

B. **Concept of Cost and Cost Curves:** Different concept of Cost-Money, Real and Opportunity Cost; Cost Curves-Short Run and Long Run.

C. **Concept of Revenue and Revenue Curves:** Total, Average and Marginal Revenue; Revenue and Revenue Curves under Perfect Competition and Monopoly.

Unit II - Market Structure	**20**	**30**

A) **Perfect Competition-** Meaning, Characteristics, Price determination, Short-run & Long-run equilibrium of a firm & industry

B) **Monopoly-** Meaning, Characteristics, Short-run & Long-run equilibrium of a firm, Price Discrimination,

C) **Monopolistic Competition-** Meaning, Characteristics, Short-run & Long-run and equilibrium of a firm, Group equilibrium, Selling cost.

Unit III - Theory of Distribution	**20**	**30**

A) Marginal productivity Theory of Distribution

B) **Rent-** Recardian and Modern theories of rent, Quasi rent

C) **Wage-** Modern Theory of Wages, Wage determination and Collective Bargaining.

D) **Interest-** Loanable funds and Liquidity preference theories of interest.

E) **Profit-** Risk and Uncertainty theory of profit, Innovation theory of profit.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effective from 2016-17)

B. A. First Year

SEMESTER – I

Co-operation Paper II

Credits: 03 **Periods: 55** **Marks: 75**

This Paper gives an in depth insight to the level of theory and History as well as function Co-operation. It focus not only present of Co- operation but also it depth insight of history of cooperation I India its focus particularly Maharashtra. It flows the functions and problems of co-operative societies in India.

Course Content:	**Period**	**Marks**
Unit I - Theory of Co-operation	**15**	**15**

1) Definition, Scope and Principles of co-operation
2) Co-operation and other forms of economic organization such as Capitalist form and Socialist form.

Unit II - History and Practice of Co-operation in India	**20**	**30**

A) Before Independence
   1) 1904 and 1912 Act of co-operation
   2) Second World War and co-operative movement

B) After Independence
   1) All India Rural Credit Survey Committee
   2) Maharashtra State New Co-operative Act 2013

Unit III - Functions and Problems of Co-operative Societies in India	**20**	**30**

1) Credit co-operative societies - Primary, District, State and Urban co-operative Bank
2) Non-Credit co-operative societies - Marketing, Consumer's, Housing, Industrial and Processing - Sugar and Dairy co-operative Societies
3) Evaluation of the co-operative movement in India-General progress achievements, weaknesses, Future prospects

Books Recommended

1) Mathur B.S.(1971) Co-operation in India, Sahitya Bhawan
2) Mathur B.L. (2006) Rural Development and Co-operation, RBSA Publishers
3) Bhatnagar and others (1927) The Co-operative organization in British India, Ram Narain Lal.
4) Tyagi R.B.(1969) Recent Trends in the Co-operative movement in India, Asia Pub. House
5) Bedi R.D. (1969) Theory, History and practice of co-operation, Loyal Book Depot
6) Kamat G. S. (1987) New Dimension of Co-operative management , Himalaya Publishing House
7) Biadyanath Misra (1997) Co-operative Movement in India, APH Publishing Corporations.
8) All India Rural credit survey report of the committee RBI
9) National Resource Centre of National Co-operative Union of India.
10) रायखेलकर ए.आर./अशोक डांगे - सहकार तत्व आणि व्यवहार, मेहता पब्लिशिंग हाऊस, पुणे १९८९
11) कुलकर्णी पी.आर. - सहकार तत्व आणि व्यवहार, विद्या बुक्त पब्लिशर्स, औरंगाबाद
12) माधव बिरादार - सहकार, तीर्थरूप प्रकाशन, भोकर २००४
13) भोसले के.एस./काटे बी.के. - सहकार, फडके प्रकाशन, कोल्हापूर १९९९
14) सी.जे.जोशी - सहकाराचा विकास, फडके प्रकाशन, कोल्हापूर २०००
15) सुदाम पवार - सहकार संकल्पना व स्वरूप, अक्षरवेल प्रकाशन, लातूर

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effective from 2016-17)

B.A. First Year

SEMESTER – II

Economy Of Maharashtra Paper IV

Credits: 03 **Periods: 55** **Marks: 75**

Course Rational:-

This Paper gives an in depth insight to the level of Demographics features of Maharashtra in this context it offers to study the patterns of Agriculture in Maharashtra, Productivity of Agriculture.

It not only deals with Agriculture but focus on industry and in fracture In Maharashtra. It focus on structure and growth of Industries as well as New Industrial policy of Maharashtra - 2013 and Development of Railway Roads water, air Transport and commutation means that all aspect Which is related to Economy of Maharashtra.

Course Content:	**Period**	**Marks**
Unit I - Demographic Features of Maharashtra	**15**	**15**

1) Population- Size and growth rates, Sex ratio, Density of population, Literacy, Trends in birth and death rates.
2) Urbanization and Migration of Rural population.

Unit II - Agriculture in Maharashtra.	**20**	**30**

1) Land utilization and Cropping pattern.
2) Productivity of Agriculture –Causes of Low Productivity ,
3) Land Reforms, Green revolution, Irrigation in Maharashtra

Unit III - Industry and Infrastructure in Maharashtra	**20**	**30**

1) Structure and Growth of Industries- Industrial investment, FDI, SEZ,.
2) Regional Imbalance in Economic Development and Marathwada Statutory Development Board
3) New Industrial Policy of Maharashtra -2013
4) Development of Railways, Roads, Water, Air Transport and communication.

Books Recommended

1) डॉ.र.पु. कुरुलकर , महाराष्ट्राची अर्थव्यवस्था,विद्या प्रकाशन नागपूर 2006

2) डॉ. आर. एस. सोळुंके, महाराष्ट्राची अर्थव्यवस्था,कैलास पब्लिकेशन औरंगाबाद 1999

3) डॉ. बी. डी. इंगळे, महाराष्ट्राची अर्थव्यवस्था,अरुणा प्रकाशन लातूर 2009

4) डॉ. मंगला जंगले, महाराष्ट्राची अर्थव्यवस्था, प्रशांत पब्लिशर्स जळगाव 2008

5) डॉ. माधव बिरादार , महाराष्ट्राची अर्थव्यवस्था, विद्या बुक्स पब्लिशर्स औरंगाबाद 2012

6) डॉ. भुजंगराव कुलकर्णी, मराठवाड्याचा विकास, अभ्यास व चिंतन,पद्मा प्रकाशन औरंगाबाद 1998

7) प्रा.अशोक नाईकवाडे (संपा), सुवर्ण महोत्सवी महाराष्ट्र, ज्ञानेश प्रकाशन औरंगाबाद 2010

8) नरेंद्र लांजेवार, शेतकऱ्यांच्या आत्महत्या,चिंतन आणि उपाय,सुमेरु प्रकाशन डोंबिवली पूर्व 2007

9) प्रा. यु.एम. मुलानी, महिला स्वयंसहायता बचत गट, डायमंड पब्लिकेशन पूणे 2006

10) महाराष्ट्राची आर्थिक पहाणी 2011-12 अर्थ व सांख्यिकी संचालनालय नियोजन विभाग, महाराष्ट्र शासन मुंबई.

11) Dr. K.K. Sharma, Intellectual’s Sandarbh Maharashtra State & District at a Glance. Intellectual Book Bureau Bhopal 2004

12) Maharashtra Development Report 2007- Planning commission Govt. of India, New Delhi

13) Population Census of Maharashtra-2011

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effective from 2016-17)

B.A. First Year

SEMESTER – I

AGRICULTURAL ECONOMICS (OPTIONAL) - II

Credits: 03 **Periods: 55** **Marks: 75**

OR

Course Rational:-

This Paper gives an in depth insight to the nature, scope, Traditional, as Well as Moderation focus on these concept in deep.

It deal introduce rural Economy of India and particular characteristics of rural Economy.

Who the Agricultural production and productivity impact on Economy. It focus on also Agricultural Inputs like imagination power, seed, role of subsides etc.

It really focus on land reforms in India Agricultural prices rural, Labor market means that hole study of Agricultural all aspects which impact the Economy.

Course Content:		**Period**	**Marks**
I)	**AGRICULTURAL AND ECONOMIC DEVELOPMENT** Natural and scope of Agricultural economics, Role of Agricultural in economic development, Traditional agriculture and its modernization, Interdependence between agriculture and industries.	**12**	**10**
II)	**RURAL ECONOMY OF INDIA** Characteristics of Rural Economy. Diversification of agriculture – Agriculture and allied activities (Fisheries, Horticulture, Floriculture)	**16**	**25**
III)	**AGRICULTURAL PRODUCTION AND PRODUCTIVITY** Agricultural productivity – causes of low productivity, Remedies farm size and productivity farm budgeting, Technical change and Labour absorption in agriculture.	**13**	**25**
IV)	**AGRICULTURAL INPUTS** Irrigation, power, seed and fertilizers, pricing of inputs and role of subsidies	**14**	**15**

Semester – I: AGRICULTURAL ECONOMICS

Basic Reading List

1. Indian Economics : Ruddar Datta and KPM Sundaram.
2. Agricultural Problems in India : Sadhu A.N. and J. Singh
3. An Introduction of Agricultural Economics : Bilgrani S.A.R.
4. Rural Development : Sundaram I.S.
5. Indian Economy : Agrawal A.N.
6. कृषी अर्थशास्त्र - शांता पडीत
7. कृषी अर्थव्यवस्था – देसाई / भालेराव
8. कृषी अर्थशास्त्र – विजय कविमंडन
9. कृषी अर्थशास्त्र – लिला पाटील
10. भारतीय अर्थव्यवस्था – प्रभाकर देशमुख
11. भारतीय अर्थव्यवस्था - रायखेलकर / डांगे
12. कृषी अर्थशास्त्र - एस.आर टकले, टी. व्ही. पवळे

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

ECONOMICS

(With Effective from 2016-17)

B.A. First Year

SEMESTER – II

Paper AGRICULTURAL ECONOMICS (OPTIONAL) – IV

Credits: 03 **Periods: 55** **Marks: 75**

OR

Course Content:		**Period**	**Marks**
I)	**LAND REFORMS IN INDIA**	**12**	**10**
	Farming system – peasant, collective and state farming, problems of marginal and small farmers, Tenancy and land reforms.		
II)	**AGRICULTURAL FINANCE**	**13**	**25**
	Need for Agricultural credit; sources of agricultural credit in India – Non Institutional and institutional. Role of NABARD.		
III)	**AGRICULTURAL PRICES**	**16**	**25**
	Incentives in agriculture – price and Non price incentives – input subsidies; agricultural price policy in India – objectives, instruments and evaluation. Commission for agricultural costs and prices. An overviews of agricultural development. Globalization and its effects on Indian agriculture.		
IV)	**RURAL LABOUR MARKET**	**14**	**15**
	Rural labour supply, interlocking of factor markets, mobility of labour and segmentation in labour markets		

Semester – II: AGRICULTURAL ECONOMICS

Basic Reading List

1. Indian Economics: Ruddar Datta and KPM Sundaram.
2. Agricultural Problems in India : Sadhu A.N. and J. Singh
3. An Introduction of Agricultural Economics: Bilgrani S.A.R.
4. Rural Development: Sundaram I.S.
5. Indian Economy: Agrawal A.N.
6. कृषी अर्थशास्त्र : शांता पंडीत
7. कृषी अर्थव्यवस्था : देसाई / भालेराव
8. कृषी अर्थशास्त्र : विजय कविमंडन
9. कृषी अर्थशास्त्र : लिला पाटील
10. भारतीय अर्थव्यवस्था : प्रभाकर देशमुख
11. भारतीय अर्थव्यवस्था : रायखेलकर / डांगे

PAPER TITLES

B.A. Fist Year (Semester-I) w.e.f. June, 2016

Paper No.	Title of the Paper	Internal Marks	External Marks
I	Micro Economic	35	40
II	Co-operation OR Agricultural Economics	35	40
	B.A. Fist Year (Semester-I) w.e.f. June, 2016		
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
III	Micro Economics	35	40
IV	Economy of Maharashtra OR Agricultural Economics	35	40
	B.A. Second Year (Semester-III) w.e.f. June, 2017		
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
V	Macro Economics	35	40
VI	Statistical Methods-I OR Economics of Development and Planning	35	40
	B.A. Second Year (Semester-IV) w.e.f. June, 2017		
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
VII	Banking	35	40
VIII	Statistical Methods-II OR Development and Environmental Economics	35	40
	B.A. Third Year (Semester-V) w.e.f. June, 2018		
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
IX	Indian Economy (Comp)	35	40
X	History of Economical thought OR Mathematical Economics-I	35	40
XI	Industrial Economics OR Quantitative Technique - I OR Urban Economics	35	40
	B.A. Third Year (Semester-VI) w.e.f. June, 2018		
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
XII	Public Finance (Comp)	35	40
XIII	International Economics OR Mathematical Economics-II	35	40
XIV	Rural Economics OR Quantitative Technique-II OR Energy Economics	35	40

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।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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Fax : (02462) 229574
Website: www.srtmun.ac.in
E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. -III Year- Marathi
02. B. A.- III Year- Hindi
03. B. A. - III Year- English
04. B. A. -III Year- Urdu
05. B. A. - III Year- Sanskrit
06. B. A. -III Year- Pali
07. B. A. - III Year- Kannada
08. B. A.- III Year- Economics
09. B. A.- III Year- Policital Science
10. B. A.- III Year- Sociology
11. B. A.- III Year- Philosophy
12. B. A.- III Year- Geography
13. B. A. -III Year – Psychology
14. B. A. - III **Year History**
15. B. A.-III Year- Public Administration
16. B. A.- III Year- Military Science
17. B. A.-III Year- Administrative Services

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/८७
दिनांक : २४.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

विषय : मराठी

श्रेयांक (C.B.C.S.) पध्दतीनुसार

पदवी तृतीय वर्ष

सत्र – पाच व सहा करीता

मराठी विषयाचा

कौशल्य विकास (SEC), वैकल्पिक (Elective) व सामान्य (Generic) अभ्यासक्रम

(जून २०२१ पासून लागू)

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

विषय : मराठी

पदवी तृतीय वर्ष अभ्यासक्रम – श्रेयांक पध्दतीनुसार (C.B.C.S.) सत्र

पध्दतीनिहाय कौशल्य विकास (SEC), वैकल्पिक (Elective) व सामान्य (Generic) अभ्यासक्रम

जून २०२१ पासून लागू

१	२	३	४	५	६	७	८	९
सत्र	अभ्यासपत्रिका संकेतांक व क्रमांक	अभ्यास पत्रिकेचे नाव	आठवड्याच्या तासिका	एकूण तासिका	अंतर्गत मूल्यांकन गुण	सत्र गुण ESC	एकूण गुण	श्रेयांक
V	DSE-MAR-1 (Elective)	मध्ययुगीन मराठी वाङ्मयाचा इतिहास	४	५५	२५	५०	७५	३
	GE-MAR-1 (Generic)	साहित्यविचार	४	५५	२५	५०	७५	३
	कौशल्य विकास अभ्यासक्रम (SEC-III)	मराठी भाषिक कौशल्ये विकास	३	४५	२५	२५	५०	२
VI	DSE-MAR-2 (Elective)	मध्ययुगीन मराठी वाङ्मयाचा इतिहास	४	५५	२५	५०	७५	३
	GE-MAR-2 (Generic)	भाषाविज्ञान आणि व्याकरण	४	५५	२५	५०	७५	३
	कौशल्य विकास अभ्यासक्रम (SEC-IV)	मराठी भाषिक कौशल्ये विकास	३	४५	२५	२५	५०	२

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

बी.ए. तृतीय वर्ष श्रेयांक (CBCS) पद्धतीनुसार

विषय : **मराठी (वैकल्पिक–Elective) अभ्यासक्रम**

जून – २०२१ पासून लागू

सत्र – पाचवे

अभ्यासपत्रिकेचे शीर्षक – मध्ययुगीन मराठी वाङ्:मयाचा इतिहास

अभ्यासपत्रिका संकेतांक – DSE-MAR-1

उद्दिष्टे:

१) मध्ययुगीन मराठी वाङ्मय निर्मितीच्या प्रेरणा समजून घेणे.

२) मध्युयगीन मराठी वाङ्मयाचे स्वरुप, परंपरा व इतिहास यांचा परिचय देणे.

३) मध्ययुगीन कालखंडातील वाङ्मयाच्या सामाजिक तथा सांस्कृतिक पार्श्वभूमीचा अभ्यास करणे.

४) मध्ययुगीन कालखंडातील विविध संप्रदायाच्या विचारधारा समजून देणे.

५) मध्ययुगीन कालखंडातील वाङ्मयाबद्दलची अभिरुची वाढविणे.

उपयोगिता

१) मध्ययुगीन कालखंडातील महत्त्वपूर्ण भक्तिसंप्रदायांची ओळख .

२) मध्ययुगीन कालखंडातील वाङ्मयातून प्रकट झालेल्या मानवी मूल्यांचे आकलन

३) मध्ययुगीन मराठी वाङ्मयीन चळवळी व प्रेरणांचे आकलन.

४) मध्ययुगीन वाङ्मयाच्या निर्मितीवर आणि वाङ्मयाच्या स्वरुपाचे ज्ञान.

५) मध्ययुगीन कालखंडातील वाङ्मयीन रचना प्रकारांचा परिचय.

अभ्यासघटक :

प्रकरण १) मराठी वाङ्मयाचा आरंभकाळ

अ) महाराष्ट्र नावाची उपपत्ति ब) मराठी भाषा उत्पत्तिकाल

१) शिलालेख २) ताम्रपट

क) आद्यकवी मुंकुदराज

प्रकरण २) महानुभाव संप्रदायाचे साहित्य

अ) प्रेरणा व स्वरूप

ब) लीळाचरित्र क) सूत्रपाठ ड) दृष्टान्तपाठ इ) सातीग्रंथ

प्रकरण : ३ वारकरी संप्रदायाचे साहित्य

अ) प्रेरणा व स्वरूप

ब) संत नामदेव – अभंगरचना

क) संत ज्ञानेश्वर – ज्ञानेश्वरी, अमृतानुभव, चांगदेवपासष्टी, अभंगरचना

ड) संत नामदेवकालीन संत– संत निवृत्तीनाथ, संत सोपानदेव, संत मुक्ताबाई, संत जनाबाई, संत चोखामेळा, संत कर्ममेळा, संत कान्होपात्रा, संत नरहरी सोनार, संत सेना न्हावी, संत गोरा कुंभार, संत सावता माळी.

प्रकरण ४ महात्मा बसवेश्वर

अ) चरित्र ब) निवडक वचने

प्रकरण ५ संत एकनाथ

अ) एकनाथी भागवत ब) रुक्मिणी स्वयंवर क) भावार्थ रामायण

ड) भारुडे व गौळणी.

अभ्यासपत्रिकेचे प्रारूप

अंतर्गत मूल्यमापन (CA)	**२५**	**गुण**
१) एक घटक चाचणी	१०	गुण
२) गृहपाठ (Home Assignment)	१०	गुण
३) चर्चासत्र (Seminar)	०५	गुण

विद्यापीठीय परीक्षा (ESE)	**५०**	**गुण**
दीर्घोत्तरी पर्यायी स्वरूपाचे तीन प्रश्न प्रत्येकी दहा गुण	३०	गुण
टीपा लिहा – चारपैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
एकूण	**७५**	**गुण**

प्रश्नपत्रिका प्रारूप

प्रश्न १ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न २ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ३ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ४ – टीपा लिहा – चार पैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
अंतर्गत मूल्यमापन	२५	गुण
एकूण	**७५**	**गुण**

संदर्भग्रंथ :

१) प्राचीन मराठी वाङ्मयाचा विवेचक इतिहास – प्र.न. जोशी

१. प्राचीन मराठी वाङ्मयाचा इतिहास – अ.ना. देशपांडे

२. प्राचीन मराठी वाङ्मयाचा इतिहास – ल.रा. नसिराबादकर

३. प्राचीन मराठी वाङ्मयाचा स्वरुप – ह.श्री. शेणोलीकर

४. प्राचीन मराठी गद्य – श्री .रं. कुलकर्णी

५. संत वाङ्मयाची सामाजिक फलश्रुती – गं.बा. सरदार

६. प्राचीन मराठीच्या नवधारा – रा.चिं. ढेरे

७. प्राचीन मराठी साहित्य संशोधन – वि.भि. कोलते

८. पाच संतकवी – शं.गो. तुळपुळे

९. महाराष्ट्र सारस्वत (खंड १ व २) – वि.ल. भावे

१०. संत,पंत व तंत – श्री. म. माटे

११. संत तुकाराम चरित्र – ल.रा. पांगारकर

१२. महाराष्ट्र संत – कवयित्री – ज.र. आजगांवकर

१३. पाच भक्तिसंप्रदाय – र.रा. गोसावी

१४. प्राचीन गीतमंजुषा – ना.ग. जोशी (संपा)

१५. प्राचीन मराठी संत कवयित्रीचे वाङ्मयीन कार्य – सुहासिनी इर्लेकर

१६. मराठी वाङ्मयाचा इतिहास (खंड–१)– शं.गो. तुळपुळे

१७. प्राचीन महाराष्ट्र – भाग १ –– श्री .व्यं. केतकर

१८. महानुभावाचा आचारधर्म – वि.भि. कोलते

१९. महानुभाव पंथ आणि त्यांचे वाङ्मय – शं.गो. तुळपुळे

२०. महानुभावीय वाङ्मय – वा.ना. देशपांडे

२१. प्राचीन मराठी गद्य – प्रेरणा आणि परंपरा – श्री रं. कुलकर्णी

२२. महानुभाव गद्य – शं.गो. तुळपुळे

२३. नामदेवांची अभंगावाणी – हे.वि. इनामदार व इतर (संपा.)

२४. श्रीसकलसंतगाथा (खंड व१ व २) र.रा. गोसावी (संपा.)

२५. वीरशैव संतसाहित्य – राजशेखर हिरेमठ

२६. वारकरी संप्रदाय : उदय आणि विकास – रा.पं. बहिरट

२७. प्राचीन मराठी साहित्य : एक पुनर्विचार – श्री रं. कुलकर्णी

२८. यादवकालीन महाराष्ट्र – मु.ग. पानसे

२९. १२ व्या शतकातील आद्य समाजसुधारक महात्मा बसवेश्वर – अशोक मेनकुदळे

३०. महात्मा बसवेश्वर – अशोक कामत

३१. मऱ्हाटी लावणी – म.वा. धोंड

३२. ओवी ते लावणी – श्री. रं. कुलकर्णी

३३. तुकारामदर्शन – सदानंद मोरे

३४. सामाजिक क्रांतीचे जनक : महात्मा बसवेश्वर : प्राचार्य डॉ.सोमनाथ रोडे

३५. महानुभव साहित्याचे सामाजिक दृष्टीने आकलन – संपादक : डॉ.संजय जगताप, संध्या जाधव

३६. संत चोखामेळा आणि संत कर्ममेळा यांच्या अभंगातील दलित जाणिवा – डॉ.दुष्यंत कटारे

३७. वारकरी संत आणि लौकीक जीवन – डॉ.संभाजी जाधव

३८. श्री संत चोखामेळा – चरित्र आणि अभंग – स.भा. कदम (संपा.)

३९. सकल संतगाथा(गाथापंचक) – रा.चिं. ढेरे (संपा.)

४०. मराठी शाहिरी कविता – मनोहर जाधव व पृथ्वीराज तौर(संपा.)

४१. आधुनिकतेचे अग्रदुत : महात्मा बसवेश्वर – डॉ.राजशेखर सोलापुरे

४२. वारकरी व महानुभाव संप्रदाय – संतोष हंकारे

४३. संत तुकारामांच्या अभंगातील जीवनमूल्ये – डॉ. हरिदास आखरे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

बी.ए. तृतीय वर्ष श्रेयांक (CBCS) पद्धतीनुसार

विषय : **मराठी (वैकल्पिक** (Generic) **अभ्यासक्रम**

जून – २०२१ पासून लागू

सत्र – पाचवे

अभ्यासपत्रिकेचे शीर्षक – साहित्यविचार

अभ्यासपत्रिका संकेतांक – GE-MAR-1

उद्दिष्टे :

१. साहित्याचे स्वरूप आणि विशेष यांची ओळख करून देणे.

२. पौर्वात्य व पाश्चिमात्य काव्यशास्त्राची माहिती देणे.

३. काव्याची लक्षणे आणि प्रयोजनांची माहिती अध्ययन करणे.

४. साहित्याच्या भाषेचे स्वरूप अभ्यासणे.

५. विद्यार्थ्यांचा वाङ्मयीन दृष्टिकोन विकसित करणे.

६. भरताच्या रससूत्राचा परिचय करून देणे.

उपयोगिता :

१) वाङ्मयीन दृष्टिकोनाचे विकसन.

२) भारतीय साहित्यशास्त्राची ओळख.

३) पाश्चिमात्य साहित्यविचारांचा परिचय.

४) रसविचारांचे पायाभूत ज्ञान.

५) शब्दांच्या विविध अर्थांचे ज्ञान.

अभ्यासघटक :

१) साहित्याचे स्वरूप आणि विशेष

२) साहित्याचे प्रयोजन : भारतीय व पाश्चात्य

३) शब्दशक्तीविचार

४) साहित्याची भाषा

५) भरताचे रससूत्र

अभ्यासपत्रिकेचे प्रारूप

अंतर्गत मूल्यमापन (CA)	**२५**	**गुण**
१) एक घटक चाचणी	१०	गुण
२) गृहपाठ (Home Assignment)	१०	गुण
३) चर्चासत्र (Seminar)	०५	गुण
विद्यापीठीय परीक्षा (**ESE**)	**५०**	**गुण**
दीर्घोत्तरी पर्यायी स्वरूपाचे तीन प्रश्न प्रत्येकी दहा गुण	३०	गुण
टिपा लिहा – चारपैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
एकूण	**७५**	**गुण**

प्रश्नपत्रिका प्रारूप :

प्रश्न १ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न २ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ३ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ४ – टिपा लिहा – चारपैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
अंतर्गत मूल्यमापन -----	२५	गुण
एकूण	**७५**	**गुण**

संदर्भग्रंथ :

१) साहित्यशास्त्र : स्वरूप व समस्या – वसंत पाटणकर

२) भारतीय साहित्यशास्त्र – ग.त्र्यं. देशपांडे

३) अभिनव काव्यप्रकाश– रा.श्री. जोग

४) काव्यशास्त्रप्रदीप – स.रा. गाडगीळ

५) साहित्यविचार – दि.के. बेडेकर

६) ॲरिस्टॉटलचे काव्यशास्त्र – गो. वि. करंदीकर

७) परंपरा व नवता – गो. वि. करंदीकर

८) साहित्यविचार – अ. वा. कुलकर्णी

९) भारतीय साहित्यविचार – लीला गोविलकर

१०) रसचर्चा – पदमाकर दादेगावकर

११) प्लेटोचे साहित्यशास्त्र – अ. ना. देशपांडे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

पदवी तृतीय वर्षासाठी – श्रेयांक (CBCS) पद्धतीनुसार

विषय : **मराठी कौशल्य विकास अभ्यासक्रम (Skill Enhancement Cource)**

जून – २०२१ पासून लागू

सत्र – **पाचवे**

अभ्यासपत्रिकेचे शीर्षक – **मराठी भाषिक : कौशल्ये विकास भाग– एक**

अभ्यासपत्रिका संकेतांक – SEC-III

उद्दिष्टे :

१) विद्यार्थ्यांच्या भाषिक क्षमतांचा अभ्यास करणे.

२) मराठी भाषिक कौशल्ये विकसित करणे.

३) मराठी भाषेचे उपयोजन व विविध क्षेत्रांतील व्यवसायाच्या संधींची माहिती करून देणे.

४) मराठी भाषेतील ग्रंथ प्रकाशनाचे एकूण स्वरूप समजून देणे.

५) मराठी भाषेची उपयुक्तता आणि वैशिष्ट्यांची ओळख करून देणे.

उपयोगिता :

१) मराठी भाषिक क्षमतांच्या वाढीस मदत.

२) मराठी भाषिक कौशल्ये विकासाला वाव.

३) विविध क्षेत्रातील व्यावसायिक संधी.

४) मराठी भाषेतील ग्रंथ प्रकाशनाचे स्वरूप समजून घेण्यास मदत.

अभ्यासघटक :

प्रकरण – १ मराठी भाषा कौशल्ये आणि व्यवसायाच्या संधी १५ तासिका

अ) मराठी भाषिक कौशल्ये – वाचन, लेखन, भाषण, संभाषण

ब) पटकथा, ब्लॉग लेखन वृत्तांत, अहवाल, टिप्पणी

इ. लेखनाचे स्वरूप ०५ तासिका

क) विविध क्षेत्रांत व्यवसायाच्या संधी

(पत्रकारिता, प्रसारमाध्यमातील कार्य)

ड) प्रात्यक्षिक कार्य १० तासिका

दृकश्राव्य माध्यमांसाठी पटकथालेखन/ सहलीचा वृत्तांत/ नामवंत व्यावसायिकांच्या भेटीचा अहवाल यापैकी एका घटकावर विद्यार्थ्यांकडून प्रात्यक्षिक करून घ्यावे. अथवा विद्यार्थ्यांना त्यांचा ब्लॉग तयार करून त्यावर लिहिण्यास प्रोत्साहन द्यावे.

प्रकरण – २ ग्रंथ प्रकाशनविश्व **१५ तासिका**

अ) ग्रंथनिर्मितीचा हेतु

ब) संहितावाचन, संस्करण आणि संपादन

क) मुद्रितशोधन, ग्रंथप्रकाशन व स्वामित्व हक्क (कॉपीराईट) ०५ तासिका

ड) ग्रंथवितरण अ) पारंपरिक ब) आधुनिक

इ) वाचकांची अभिरुची

ई) ग्रंथपुरस्कार

इ) प्रात्यक्षिक कार्य १० तासिका

आपल्या परिसरातील वाचनालयास भेट / प्रकाशनसंस्थेस भेट/ ग्रंथवितरकांशी वार्तालाप / ग्रंथसजावट करणारांशी (चित्रकार/ मुखपृष्ठ तयार करणारे कलावंत) संवाद / ग्रंथप्रकाशन सोहळ्याची निमंत्रण पत्रिका तयार करणे, ग्रंथपुरस्कार संस्था व वाचकांची आवड- निवड इ.

प्रकरण – ३ ग्रंथपरीक्षण **१५ तासिका**

अ) आस्वाद

ब) आकलन ०५ तासिका

क) मूल्यमापन

ड) प्रात्यक्षिक कार्य १० तासिका

प्रत्येक विद्यार्थ्यांकडून किमान एका पुस्तकाचे परीक्षण करून घ्यावे.

प्रश्नपत्रिकेचे प्रारूप

मूल्यमापन (ESE)		**२५**	**गुण**
१.	कौशल्ये विकास प्रकल्प कार्य	१०	गुण
२.	कौशल्ये मूल्यांकन	१०	गुण
३.	कौशल्ये कार्याचे सादरीकरण	०५	गुण
मूल्यमापन (CA)		**२५**	**गुण**
१.	मराठी भाषाकौशल्ये आणि व्यवसायाच्या संधी		
२.	ग्रंथ प्रकाशनविश्व		
३.	ग्रंथपरीक्षण		
अ)	वरील अभ्यास घटकांवर घटक चाचणी (**Unit Test**)-१	१०	गुण
	गृहपाठ (**Home Assignment**)	१०	गुण
ब)	चर्चासत्र - १	०५	गुण

टीप : मराठी भाषिक कौशल्ये : विकास – (संपादक – डॉ. पृथ्वीराज तौर) हे पुस्तक या अभ्यासपत्रिकेसाठी नेमण्यात आले आहे.

संदर्भग्रंथसूची :

१. व्यावहारिक उपयोजित मराठी आणि प्रसारमाध्यमे - संपादक डॉ. संदीप सांगळे, डायमंड पब्लिकेशन, पुणे.

२. व्यावहारिक मराठी - प्रा. मोकाशी, प्रा. नेमाडे, शेतकरी साहित्य परिषद.

३. व्यावहारिक मराठी - संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन, प्रकाशन पुणे.

४. उपयोजित मराठी - भाग-२, डॉ. प्रकाश मेदककर, सुविद्या प्रकाशन.

५. जाहिरातीचं जग - यशोदा भागवत, मौज प्रकाशन, मुंबई

६. पत्रकारितेची मूलतत्त्वे - प्रभाकर पाध्ये (अनुवाद) प्र. ना. परांजपे, वसुधा परांजपे, मेहता पब्लिशिंग हाऊस, पुणे

७. वाणिज्य मित्र - डॉ. स्वाती दामोदरे

८. उत्कृष्ट भाषण कला - डॉ.राजशेखर सोलापुरे

९. वक्तृत्व आणि संभाषण कौशल्य - डॉ. श्रुती वडगबाळकर

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

बी.ए. तृतीय वर्ष श्रेयांक (CBCS) पद्धतीनुसार

विषय : **मराठी (वैकल्पिक–Elective) अभ्यासक्रम**

जून – २०२१ पासून लागू

सत्र – पाचवे

अभ्यासपत्रिकेचे शीर्षक – **मध्ययुगीन मराठी वाङ्मयाचा इतिहास**

अभ्यासपत्रिका संकेतांक – DSE-MAR-2

उद्दिष्टे :

१) मध्ययुगीन मराठी वाङ्मयनिर्मितीच्या प्रेरणा समजून घेणे.

२) मध्युयगीन मराठी वाङ्मयाचे स्वरुप, परंपरा व इतिहास यांचा परिचय देणे.

३) मध्ययुगीन कालखंडातील वाङ्मयाच्या सामाजिक तथा सांस्कृतिक पार्श्वभूमीचा अभ्यास करणे.

४) मध्ययुगीन कालखंडातील विविध संप्रदायांच्या विचारधारा समजून देणे.

५) मध्ययुगीन कालखंडातील वाङ्मयाबद्दलची अभिरुची वाढविणे.

उपयोगिता :

१) मध्ययुगीन कालखंडातील महत्वपूर्ण भक्तिसंप्रदायांची ओळख .

२) मध्ययुगीन कालखंडातील वाङ्मयातून प्रकट झालेल्या मानवी मूल्यांचे आकलन

३) मध्ययुगीन मराठी वाङ्मयीन चळवळी व प्रेरणांचे आकलन.

४) मध्ययुगीन वाङ्मयाच्या निर्मितीचे आणि वाङ्मयाच्या स्वरुपाचे ज्ञान.

५) मध्ययुगीन कालखंडातील वाङ्मयीन रचनाप्रकारांचा परिचय.

घटक :

प्रकरण : १) संत तुकाराम

अ) चरित्र ब) अभंगरचना

प्रकरण : २) संत रामदास

अ) दासबोध ब) मनाचे श्लोक

प्रकरण : ३) पंडिती कवी

अ) प्रेरणा व स्वरूप

ब) मुक्तेश्वर (महाभारत)

क) वामनपंडित (यथार्थदिपीका, आख्यानक कविता)

ड) रघुनाथ पंडित (दमयंती स्वंयवर)

इ) श्रीधर पंडीत (श्रीराम विजय व पांडप्रताप)

ई) मोरोपंत (आर्याभारत, स्फुटरचना)

प्रकरण : ४ शहिरी वाड्मय

अ) प्रेरणा व स्वरूप

ब) राम जोशी क) होनाजी बाळा क) अनंतफंदी

प्रकरण : ५ बखर वाड्मय

अ) प्रेरणा व स्वरूप ब) कृष्णाजी अनंत सभासदांची बखर

ब) भाऊसाहेबांची बखर

अभ्यासपत्रिकेचे प्रारूप

अंतर्गत मूल्यमापन (CA)	**२५**	**गुण**
१) घटक चाचणी	१०	गुण
२) गृहपाठ (Home Assignement)	१०	गुण
३) चर्चासत्र (Seminer)	०५	गुण
विद्यापीठीय परीक्षा (ESE)	**५०**	**गुण**
दीर्घोत्तरी पर्यायी स्वरूपाचे तीन प्रश्न प्रत्येकी दहा गुण	३०	गुण
टीपा लिहा – चारपैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
एकूण	**७५**	**गुण**

प्रश्नपत्रिका प्रारूप :

प्रश्न १ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न २ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ३ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ४ – टीपा लिहा – चारपैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
अंतर्गत मूल्यमापन -----	२५	गुण
एकूण	**७५**	**गुण**

संदर्भग्रंथ :

१. प्राचीन मराठी वाङ्मयाचा विवेचक इतिहास – प्र.न. जोशी

२. प्राचीन मराठी वाङ्मयाचा इतिहास – अ.ना. देशपांडे

३. प्राचीन मराठी वाङ्मयाचा इतिहास– ल.रा. नसिराबादकर

४. प्राचीन मराठी वाङ्मयाचा स्वरुप – ह.श्री. शेणोलीकर

५. प्राचीन मराठी गद्य –श्री .रं. कुलकर्णी

६. संत वाङ्मयाची सामाजिक फलश्रुती – गं.बा. सरदार

७. प्राचीन मराठीच्या नवधारा – रा.चिं. ढेरे

८. प्राचीन मराठी वाङ्मयाचा परामर्श – श्री. मं. पिंगे

९. प्राचीन मराठी साहित्य संशोधन – वि.भि. कोलते

१०. पाच संतकवी – शं.गो. तुळपुळे

११. महाराष्ट्र सारस्वत (खंड १ व २) – वि.ल. भावे

१२. संत, पंत व तंत – श्री. म. माटे

१३. संत तुकाराम चरित्र – ल.रा. पांगारकर

१४. महाराष्ट्र संत – कवयित्री – ज.र. आजगांवकर

१५. पाच भक्तिसंप्रदाय – र.रा. गोसावी

१६. प्राचीन गीतमंजुषा – ना.ग. जोशी (संपा)

१७. प्राचीन मराठी संत कवयित्रीचे वाङ्मयीन कार्य – सुहासिनी इर्लेकर

१८. मराठी वाङ्मयाचा इतिहास (खंड–१)– शं.गो. तुळपुळे

१९. प्राचीन महाराष्ट्र – भाग १ –– श्री .व्यं. केतकर

२०. महानुभावाचा आचारधर्म – वि.भि. कोलते

२१. महानुभाव पंथ आणि त्यांचे वाङ्मय – शं.गो. तुळपुळे

२२. महानुभावीय वाङ्मय – वा.ना. देशपांडे

२३. प्राचीन मराठी गद्य – प्रेरणा आणि परंपरा – श्री रं. कुलकर्णी

२४. महानुभाव गद्य – शं.गो. तुळपुळे

२५. प्राचीन मराठी आख्यानकाव्य – गजमल माळी

२६. संत तुकारामांचे अभंग – डॉ.बी.आर.दहिफळे, डॉ.पी.एन.धोंडगे

२७. श्रीसकलसंतगाथा (खंड व१ व २) र.रा. गोसावी (संपा.)

२८. वीरशैव संतसाहित्य – राजशेखर हिरेमठ

२९. वारकरी संप्रदाय : उदय आणि विकास – रा.पं. बहिरट

३०. प्राचीन मराठी साहित्य : एक पुनर्विचार – श्री रं. कुलकर्णी

३१. यादवकालीन महाराष्ट्र – मु.ग. पानसे

३२. १२ व्या शतकातील आद्य समाजसुधारक महात्मा बसवेश्वर–अशोक मेनकुदळे

३३. मऱ्हाटी लावणी – म.वा. धोंड

३४. ओवी ते लावणी – श्रीधर रंगनाथ कुलकर्णी

३५. वैष्णवांचा धर्म – डॉ.पी.एन.धोंडगे

३६. लेखियेला तुका – डॉ.पंढरीनाथ धोंडगे

३७. सकल संतगाथा (गाथापंचक) – रा.चिं. ढेरे (संपा.)

३८. मराठी शाहिरी कविता – मनोहर जाधव व पृथ्वीराज तौर(संपा.)

३९. वारकरी व महानुभाव संप्रदाय – संतोष हंकारे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

बी.ए. तृतीय वर्ष श्रेयांक (CBCS) पद्धतीनुसार

विषय : **मराठी (वैकल्पिक–Generic) अभ्यासक्रम**

जून – २०२१ पासून लागू

सत्र – सहावे

अभ्यासपत्रिकेचे शीर्षक – भाषाविज्ञान व व्याकरण

अभ्यासपत्रिका संकेतांक – GE-MAR-2

उद्दिष्टे :

१) मराठी भाषेची अभिरूची वाढविणे.

२) मराठी भाषेचे शास्त्रशुद्ध स्वरूप समजून देणे.

३) भाषेचे स्वरूप- कार्य समजावून सांगणे.

४) भाषिक परिवर्तनाची कारणमीमांसा शोधणे.

५) ऐतिहासिक भाषाविज्ञानाचा परिचय करून देणे.

६) प्रयोगविचार व विभक्तिविचार यांचा अभ्यास करणे.

उपयोगिता :

१) भाषिक ज्ञानाची वृद्धी.

२) मराठी भाषेच्या इतिहासाची ओळख.

३) लेखनविषयक सजगता.

४) मराठी व्याकरणिक घटकांचे ज्ञान.

घटक :

१. भाषेचे स्वरूप व कार्ये (संकल्पना, व्याख्या, स्वरूप व कार्य)

२. भाषिक परिवर्तन (ध्वनिपरिवर्तन व अर्थपविर्तन)

३. प्रमाणभाषा व बोलीभाषा (संकल्पना, व्याख्या, स्वरूप, साम्य-भेद)

४. विभक्तिविचार

५. प्रयोगविचार

अभ्यासपत्रिकेचे प्रारूप

अंतर्गत मूल्यमापन (CA)	**२५**	**गुण**
१) घटक चाचणी	१०	गुण
२) गृहपाठ (Home Assignement)	१०	गुण
३) चर्चासत्र (Seminar)	०५	गुण
विद्यापीठीय परीक्षा (ESE)	**५०**	**गुण**
दीर्घोत्तरी पर्यायी स्वरूपाचे तीन प्रश्न प्रत्येकी दहा गुण	३०	गुण
टीपा लिहा – चारपैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
एकूण	**७५**	**गुण**

प्रश्नपत्रिका प्रारूप

प्रश्न १ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न २ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ३ – दीर्घोत्तरी स्वरूपाचे पर्यायी प्रश्न	१०	गुण
प्रश्न ४ – टिपा लिहा – चारपैकी दोन (प्रत्येकी ०५ गुण)	१०	गुण
अंतर्गत मूल्यमापन -----	२५	गुण
एकूण	**७५**	**गुण**

संदर्भग्रंथ :

१) मराठीचे ऐतिहासिक भाषाशास्त्र – र.रा. गोसावी

२) मराठी भाषा : व्यवस्था आणि अध्यापन – चंद्रकांत इंदापूरकर

३) ध्वनिविचार – ना.गो. कालेलकर

४) भाषा आणि संस्कृती – ना.गो. कालेलकर

५) भाषा, इतिहास व भूगोल – ना.गो. कालेलकर

६) मराठी भाषेचा आर्थिक संसार – अशोक केळकर

७) मराठी भाषा : उद्‌गम व विकास – कृ. पां. कुलकर्णी

८) भाषाविज्ञान : वर्णनात्मक आणि ऐतिहासिक – संपा. मालसे, इनामदार व सोमण

९) सुबोध भाषाशास्त्र – प्र. न. जोशी

१०) शुद्धलेखनाचे नियम– महाराष्ट्र शासनाची प्रत

११) मराठी व्याकरणाचा पुनर्विचार – अ.ग. मंगरूळकर

१२) सुलभ मराठी व्याकरण लेखन – मो.रा.वाळिंबे

१३) शास्त्रीय मराठी व्याकरण – मो.के. दामले

१४) अभिनव मराठी व्याकरण – प्र.न. जोशी

१५) मराठीचे व्याकरण – लीला गोविलकर

१६) प्रमाण मराठी भाषेचे स्वरूप – सुहासिनी लद्दू

१७) बोली भाषांचा अभ्यास – सु. बा. कुलकर्णी

१८) मराठी शुद्धलेखनप्रदीप – मो.रा.वाळिंबे

१९) आधुनिक भाषाविज्ञान सिद्धांत व उपयोजन– मिलिंद मालशे

२०) ग्रामीण कादंबरी : मराठवाडी बोलीचे स्वरूप– डॉ. विठ्ठल जंबाले

२१) मराठवाडा सीमाभागातील बोली व संस्कृती – डॉ.आशा मुंडे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

पदवी तृतीय वर्षासाठी – श्रेयांक (CBCS) **पद्धतीनुसार**

विषय : **मराठी कौशल्य विकास अभ्यासक्रम** (Skill Enhancement Cource)

जून – २०२१ पासून लागू

सत्र – **सहावे**

अभ्यासपत्रिकेचे शीर्षक – **मराठी भाषिक कौशल्ये विकास**

भाग– दोन

अभ्यासपत्रिका संकेतांक – SEC-IV

उद्दिष्टे :

१) कार्यक्रम आयोजनातील अडथळे लक्षात आणून देणे.

२) देहबोलीचे महत्त्व समजावून सांगणे.

३) देहबोलीचा संभाषणात कसा वापर करावा, याबद्दलची माहिती देणे.

४) मुद्रितशोधनाचे स्वरूप आणि संकल्पना समजावून सांगणे.

५) प्रमाण मराठी लेखनाच्या नियमाबद्दल ज्ञानात्मक जाणीव निर्माण करणे.

६) मुद्रितशोधनाचे प्रात्यक्षिक कार्य अनुभवणे.

उपयोगिता :

१) विविध प्रकारच्या कार्यक्रमांचे आयोजन.

२) विविध क्षेत्रांतील व्यवसायांच्या संधी.

३) देहबोलीच्या वापरातून प्रभावी संभाषण.

४) मुद्रितशोधनासाठीचे कौशल्ये विकसन.

५) प्रमाण मराठीच्या नियमांचा लेखनामध्ये उपयोजन.

अभ्यासघटक :

प्रकरण – १	**कार्यक्रमाचे आयोजन**	**१५**	**तासिका**
	अ) वाङ्मयीन ब) सांस्कृतिक		
	क) सामाजिक क) शैक्षणिक	०५	तासिका
	इ) प्रात्यक्षिक कार्य	१०	तासिका

महाविद्यालयीन पातळीवर कविसंमेलन / स्वागत समारंभ / निरोप समारंभ / प्रबोधनपर कार्यक्रम / विविधगुणदर्शन कार्यक्रम / व्याख्यान आयोजन इत्यादी कार्यक्रम आयोजन करण्यासाठी विद्यार्थ्यांना संधी उपलब्ध करून देणे.

प्रकरण – २	**देहबोली आणि संभाषण कौशल्ये**	**१५**	**तासिका**
	अ) देहबोलीचे पैलू		
	ब) संभाषण कौशल्याचे गुणविशेष	०५	तासिका
	क) प्रभावी संभाषणात देहबोलीचा वापर		
	ड) प्रात्यक्षिक कार्य	१०	तासिका
	संभाषण कौशल्य विकसित होतील अशा कार्यक्रमांचे आयोजन करणे		
प्रकरण – ३	मुद्रितशोधन आणि प्रमाण मराठी लेखन	१५	तासिका
	अ) मुद्रितशोधन : संकल्पना, स्वरूप, प्रकार आणि महत्त्व	०५	तासिका
	ब) प्रमाण मराठी लेखनविषयक नियम		
	क) मुद्रितशोधनाचे प्रात्यक्षिक कार्य	१०	तासिका

कथा, कादंबरी, नाटक इत्यादी वाङ्मयप्रकारांपैकी उतारा देऊन मुद्रितशोधन विद्यार्थ्यांकडून करवून घेणे.

प्रश्नपत्रिकेचे प्रारूप

मूल्यमापन (ESE)	**२५**	**गुण**
१. कौशल्ये विकास प्रकल्पकार्य	१०	गुण
२. कौशल्ये मूल्यांकन	१०	गुण
३. कौशल्ये कार्याचे सादरीकरण	०५	गुण
मूल्यमापन (**CA**)	**२५**	**गुण**

१. कार्यक्रमाचे आयोजन

२. देहबोली आणि संभाषण कौशल्य

३. मुद्रितशोधन आणि प्रमाण मराठी लेखन

अ)	वरील अभ्यास घटकांवर घटक चाचणी (**Unit Test**)-१	१०	गुण
	गृहपाठ (**Home Assignment**)	१०	गुण
ब)	चर्चासत्र - १	०५	गुण

टीप : मराठी भाषिक कौशल्ये : विकास - (संपादक - डॉ. पृथ्वीराज तौर) हे पुस्तक या अभ्यासपत्रिकेसाठी नेमण्यात आले आहे.

संदर्भग्रंथसूची :

१. व्यावहारिक उपयोजित मराठी आणि प्रसारमाध्यमे - संपादक डॉ. संदीप सांगळे, डायमंड पब्लिकेशन, पुणे.

२. व्यावहारिक मराठी - प्रा. मोकाशी, प्रा. नेमाडे, शेतकरी साहित्य परिषद.

३. व्यावहारिक मराठी - संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन, प्रकाशन पुणे.

४. उपयोजित मराठी - भाग-२, डॉ. प्रकाश मेदककर, सुविद्या प्रकाशन.

५. जाहिरातीचं जग - यशोदा भागवत, मौज प्रकाशन, मुंबई

६. पत्रकारितेची मूलतत्त्वे - प्रभाकर पाध्ये (अनुवाद) प्र. ना. परांजपे, वसुधा परांजपे, मेहता पब्लिशिंग हाऊस, पुणे

७. वाणिज्य मित्र - डॉ. स्वाती दामोदरे

८. माध्यमांची भाषा आणि लेखन कौशल्य - डॉ.केशव तुपे

९. प्रमाण लेखन नियमावली, भाषा संचनालय महाराष्ट्र शासन, मुंबई

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
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Website: www.srtmun.ac.in
E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. -III Year- Marathi
02. B. A.- III Year- Hindi
03. B. A. - III Year- English
04. B. A. -III Year- Urdu
05. B. A. - III Year- Sanskrit
06. B. A. -III Year- Pali
07. B. A. - III Year- Kannada
08. B. A.- III Year- Economics
09. B. A.- III Year- Policital Science
10. B. A.- III Year- Sociology
11. B. A.- III Year- Philosophy
12. B. A.- III Year- Geography
13. B. A. -III Year – Psychology
14. B. A. - III **Year History**
15. B. A.-III Year- Public Administration
16. B. A.- III Year- Military Science
17. B. A.-III Year- Administrative Services

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/८७
दिनांक : २४.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

Swami RamanandTeerthMarathwada University,Nanded

SyllabusforThirdYear Optional English

(To be implemented from the academic year 2021-22)

OptionalEnglish

Semester	Paper /course code	Nameofthecourse	Lectures per week	TotalPeriods	InternalEvaluation(CA)	End Sem. Exam. (E.S.E.)	Total Marks	Credits
V	DSE-ENG -I	Literary Criticism I	04	55	25	50	75	3
VI	GE-ENG -I	Modern English Structures: Understanding English Phonology	04	55	25	50	75	3
V	DSE-ENG-II	Literary Criticism II	04	55	25	50	75	3
VI	GE-ENG -II	ModernEnglishStructures: Understanding English Grammar	04	55	25	50	75	3

SkillEnhancementCourse

Semester	Paper /course code	Nameofthecourse	Lecturesperweek	Total Periods	InternalEvaluation(CA)	End Sem. Exam. (E.S.E.)	Total Marks	Credits
V	SEC-ENG-III	LifeSkills-I	03	45	25	25	50	2
VI	SEC-ENG-IV	LifeSkills-II	03	45	25	25	50	2

DSEI-SemesterV

Titleofthecourse:LiteraryCriticismI
Course/Papercode:DSE-ENG-I
Marks75(ESE50+CA25)Credits-3

Objectives:
1) To introduce the concept and significance of Literary Criticism in Literary Studies
2) To acquaint the learners to the Classical and Renaissance tradition of Western Literary Criticism
3) To familiarize the learners with the major contributions of select critics

Intended Outcomes:
1) Learners will be able to understand the historical background of the canon of Western Literary Criticism
2) Learners will appreciate the various theories developed during the Classical times and European Renaissance
3) Learners will be sensitized to the foundations of different critical traditions

Syllabus:

Module/Unit	Content
1	Plato, Aristotle
2	Horace, Quintilian
3	Longinus, Dante
4	Sir Philip Sidney, Ben Jonson
5	John Dryden, Joseph Addison

Prescribed Text Book: *An Introduction to English Criticism* by B. Prasad (Trinity Press)
Continuous Internal Evaluation: 25 Marks (1 Credit)
Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks
End Semester Examination: 50 marks (2 Credits)

QuestionPaperPattern(Marks 50)

Q.1 Essaytypequestion with internal choice from Unit 1- 10 marks
Q.2 Essaytypequestion with internal choice from Unit 2- 10 marks
Q.3 Essaytypequestion with internal choice from Unit 3- 10 marks
Q.4 Essaytypequestion with internal choice from Unit 4- 10 marks
Q.5 Essaytypequestion with internal choice from Unit 5- 10 marks

GEI–SemesterV

Titleofthecourse:ModernEnglishStructures: Understanding English PhonologyCourse/Papercode:GE-ENG-I
Marks75(ESE50+CA25)Credits-3

Objectives:
1) To introduce the learners to the study of the physical aspects of speech.
2) To impart training in the transcription of the sounds of the English Language as per the International Phonetic Alphabet (IPA).
3) To familiarize the learners with the articulatory, acoustic and perceptual phonetics.
Intended Outcomes:
1) The learners will be able to perceive, and transcribe the sounds of the English language, while learning the acoustic and articulatory properties.
2) The learners will gain practical skills of transcribing data in the International Phonetic Alphabet (IPA).
3) The ability of synthesizing speech will be acquired.
Syllabus:

Unit/Module No.	Content
1	*Understanding Speech Mechanism:*Respiratory System, Phonetorysystem, Articulatory System, Active and Passive Articulators
2	*Speech Sounds: Description and Classification:* The Description and Classification of Consonants, The Description and Classification of Vowels
3	*Phonetic Transcription of Words:*Phonemes and Allophones, The Syllable, Consonant Clusters ,Word Accent
4	*Understanding Weak Forms and Strong forms:*Articles, Pronouns, Prepositions, Auxiliary verbs, Other words ,Assimilation and Elision
5	*Intonation:* Rising tone, Falling tone, Rising falling tone, Falling rising tone

Prescribed Texts:

A Course in Phonetics and Spoken English by Sethi, J. & P. V. Dhamija(Prentice-Hall)
*A Textbook of Phonetics for Indian Students*by Balasubranium, T. (Macmillan)
*Better English Pronunciation*by O'Connor, J. D.(Cambridge U.P.)
English Pronouncing Dictionary by Jones, Daniel et al (UBS)
Spoken English: A Manual of Speech and Phonetics by R.K. Bansal &J. B. Harrison (Orient Blackswan)

Continuous Internal Evaluation: 25 Marks (1 Credit)
Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks
End Semester Examination: 50 marks (2 Credits)

QuestionPaperPattern(Marks 50)

Q.1. Write Short notes on any two (out of four) of the following. 10 marks
Q.2 a. Give three term description for any five (out of seven) of the following sounds. 05marks
b. Write the IPA symbols for any five (out of seven) of the following descriptions. 05marks
Q.3 a. Mark the syllables in any five of the following words. 05marks
b. Transcribe any five of the following words. 05marks

Q.4 a. Write weak and strong forms of the following words. 05marks

b. Transcribe following sentences using weak forms. 05marks

Q. 5 Transcribe any five of the following sentences marking stress and tone groups wherever necessary. 10marks

DSEIISemesterVI
Titleofthecourse:LiteraryCriticismII
Course/Papercode:DSE-ENG-II
Marks75(ESE50+CA25)Credits-3

Objectives:

1) Toimpart the knowledge of significant propositions propounded by major English Literary critics.
2) Toacquaintthelearnerswiththefoundation for the development of critical schools in English Studies after the Renaissance.
3) Toenablethelearnersforundertakingpracticalcriticism

Intended Outcomes:

1) Learners will understand the basic principles of Literary Criticism as revealed from the study of the individual critics.
2) Learners will perceive the development of English Literary Criticism through the ages.
3) An ability to appreciate literary text through the practice of actual critical analysis will be gained.

Syllabus:

Module/Unit	Content
1	Alexander Pope, Dr. Johnson
2	William Wordsworth, S.T.Coleridge
3	Matthew Arnold, Walter Pater
4	T.S. Eliot, I.A. Richards
5	Practical Criticism (Critical Appreciation of a literary text)

Prescribed Text Books:
An Introduction to English Criticism by B. Prasad (Trinity Press)
Literary Studies, A Practical Guide–(Unit 2-"A Practical Guide to Major Literary Modes" for Module 5 of Practical Criticism)by Tison Pugh and Margaret E. Johnson (Routledge)
Continuous Internal Evaluation: 25 Marks (1 Credit)
Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks
End Semester Examination: 50 marks (2 Credits)

Continuous Internal Evaluation: 25 Marks (1 Credit)
Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks
End Semester Examination: 50 marks (2 Credits)

QuestionPaperPattern(Marks 50)

Q.1Essaytypequestion with internal choice from Unit 1- 10 marks
Q.2Essaytypequestion with internal choice from Unit 2- 10 marks
Q.3Essaytypequestion with internal choice from Unit 3- 10 marks
Q.4Essaytypequestion with internal choice from Unit 4- 10 marks
Q.5Critical Appreciation of an unseen Poem
(one out of two poems) with emphasis on the elements of Accent, Rhythm, Meter, and the Poetic Line, Images, Symbols, Allusions, and Figurative Language, Voice and Genre, Theme) 10 marks

GEII–SemesterVI
Titleofthecourse:ModernEnglishStructures: Understanding EnglishGrammarCourse/Papercode:GE-ENG-II

Marks75(ESE50+CA25)Credits-3

Objectives:

1) To develop a good understanding of modern English grammar.
2) To enable the learners to produce grammatically and idiomatically correct language.
3) To impart the knowledge of the theory and practice in the field of English grammar at contemporary times.

Intended Outcomes:

1) The learners will be able to have an appreciable understanding of English grammar.
2) The learners will gain capability of producing grammatically and idiomatically correct spoken and written discourse.
30 The learners will acquire the skill of locating language errors and ambiguities.

Syllabus:

Unit/Module no.	Content
1	*Morphology*: Affixation, Compounding, Reduplication ,Blending, Clipping, Back Formation, Acronyms
2	*Word Classes and Phrases*: Open Word Classes: - Nouns, Verbs, Adjectives, Adverbs; Closed Word Classes: - Pronouns, Pre-determiners, Determiners, Prepositions, Conjunctions, Auxiliary Verbs, Interjections; Phrases: Noun Phrase, Verb Phrase, Adjective Phrase, Adverb Phrase, Prepositional Phrase
3	*Main Clauses*:Clause Elements, Basic Clause Types,Simple, compound and Complex Sentences
4	*Subordinate Clauses*:Noun Clause, Adjective Clause, Adverb Clause, Finite and Non-finite clauses
5	*Semantics*:Form and Meaning; Ambiguity: Structural and Lexical Ambiguity ,The Notion of Acceptibility

Prescribedtextbooks:

*Modern English – A Book of Grammar, Usage & Composition*by Krishnaswamy, N. (Macmillan)
Rediscover Grammar with David Crystal byCrystal, David (Longman)
*A Course in English Grammar*by Bakshi, R. N.(Longman)
Reference Grammar for Students of English by Close, R. A. (Longman)
*Advanced English Grammar*by Hewings, M. (Cambridge U.P.)

Continuous Internal Evaluation: 25 Marks (1 Credit)
Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks
End Semester Examination: 50 marks (2 Credits)

QuestionPaperPattern(Marks 50)

Q.1. (a) Short Answer question on Morphology 05 marks

(b) Morphological analysis of words (5 out of7) 05marks

Q.2. (a) Short Answer type question on Unit 2. 05marks

(b) Identify and analyze any two of the following phrases to the level of words. 05marks

Q.3. (a) Short answer question on Unit 3. 05marks

(b) Do as Directed 05marks

Q.4. (a) Short Answer question on unit 4. 05marks

(b) Identify the subordinate clause in any two of the following and state its form and function. 05marks

Q.5. (a) comment on the difference between form and meaning in any two of the following. 05marks

(b) Say whether the following sentences are ambiguous. Comment on the ambiguity if any. 05marks

SyllabusforSkillEnhancementCourse(SEC)–

ThirdYear

Title ofthe course: LifeSkills–I-SemesterV
Course/Papercode:SEC-ENG-
IIICredits:02(Marks:50)Periods:4
5(ESE–25Marks)
(CA-25Marks)

SalientFeaturesoftheCourse
1. Thecoursepreparesthelearnersforasmoothentryintotheworldofwork
2. Self-awarenessandsocialawarenessaredeveloped
3. Skillnecessaryfordigitallifestyleareintroduced

UtilityoftheCourse:
1) Developingpersonalandsocialskillsinthelearners
2) Creatinggenderawareness
3) Developingskillsforindividualandgroupactivities

Objectives:
1) Toassistthelearnersforasmoothtransitionfromstudentlifeintotheworldofwork.
2) Todeveloptheskillsnecessaryforunderstandingoneselfandthesocioculturalgroup.
3) Tohelpthelearnerschoosethebestwaysofutilizing theirtime,effortsandmentalenergies.
4) Toprovidetraininginskillsrequiredtofind,understand,evaluate,create,andcommunicatedigitali nformationin a widevarietyofformats.
5) Tomakethelearnersabletousediversetechnologiesappropriatelyandeffectivelytoretrieveinfor mation,interpretresults,andjudgethequalityof thatinformation.

PrerequisitesfortheCourse:
1. Handouts,coursematerialandactivitysheets
2. Progresschartoflearnersforevaluationoftheirperformance.
3. Thefollowingfacilitieswouldbeofadditionalhelp:
ComputerSystemwithinternetconnectivity,LCDProjectorandScreen

UnitI:AcquisitionofPersonalandSocialSkills
1) CriticalandLateralthinking
2) Civicskillsandsocialresponsibility
3) Self-awareness,mindfulnessandself-esteem:
   a) Decisionmaking
   b) Timemanagement
   c) Goalsetting
4) GenderSensitization

UNIT:II--ContinuousAssessment(CA)[Marks:25]Periods20
Note:ContinuousAssessmentmaybedoneonthebasisoffollowingcriteria
1. Interview,Seminar,TopicPresentationduringthesemesterfor05Markseach.[15Marks]
2. One(1)Assignmentfor10Marks.
(Continuousassessmentcanbecarriedonthebasisofthetext-bookprescribedforthesyllabus-
AnIntroductiontoLifeSkills)

SyllabusforSkillEnhancementCourse

(SEC)-ThirdYear

Titleofthecourse:LifeSkills-II-
SemesterVICourse/Papercode:SEC-ENG-IV
Credits:02(Marks:50)Periods:45
(ESE–25MarksandCA-25Marks)

UnitI-AcquiringDigitalLiteracy:

1) ImportanceofDigitalLiteracy
2) OnlineTransactionsandSearchSkills
3) ICTtools:
    a) MassiveOpenOnlineCourses(MOOC)andtheirutility
    b) Generictools
    c) P2PNetworkinganditsuses
4) CybersecurityandNetworkSafety

UNIT:II--ContinuousAssessment(CA)[Marks:25]Periods20
Note: ContinuousAssessmentmaybedoneonthebasisoffollowingcriteria
1. Interview,Seminar,andTopicPresentationduringthesemesterfor05Markseach.[15Marks]
2. OneAssignmentfor10Marks.
(Continuousassessmentcanbecarriedonthebasisoftextualassignmentgiveninthetext-bookprescribedforthesyllabus -***AnIntroduction to Life Skills)***

Questionpaperpattern

EndSemesterexaminationforSemesterV&VIwillbeconductedannually(25+ 25=50 Marks)

QuestionPaperPattern:ForSemesterV&VIeach-

1. **SkillWorkReportSubmission -10Marks**
2. **OverallSkillJudgment -10Marks**
3. **SkillWorkPresentation -05Marks**

*****

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR
ACADEMIC (1-BOARD OF STUDIES) SECTION
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संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३० एप्रिल २०१९ रोजी संपन्न झालेल्या ४३व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.५/४३–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

१) बी.ए.–प्रथम वर्ष–इंग्रजी (अनिवार्य, अतिरिक्त (द्वितीय भाषा), फंक्शनल इंग्रजी, ऐच्छिक)
२) बी.ए.–प्रथम वर्ष–हिंदी (द्वितीय भाषा, ऐच्छिक)
३) बी.ए.–प्रथम वर्ष–मराठी (द्वितीय भाषा, ऐच्छिक)
४) बी.ए.–प्रथम वर्ष–पाली (द्वितीय भाषा, ऐच्छिक)
५) बी.ए.–प्रथम वर्ष–संस्कृत (द्वितीय भाषा, ऐच्छिक)
६) बी.ए.–प्रथम वर्ष–उर्दू (द्वितीय भाषा, ऐच्छिक)
७) बी.ए.–प्रथम वर्ष–अर्थशास्त्र
८) बी.ए.–प्रथम वर्ष–भूगोल
९) बी.ए.–प्रथम वर्ष–इतिहास
१०) बी.ए.–प्रथम वर्ष–सैनिकशास्त्र
११) बी.ए.–प्रथम वर्ष–तत्त्वज्ञान
१२) बी.ए.–प्रथम वर्ष–राज्यशास्त्र
१३) बी.ए.–प्रथम वर्ष–मानसशास्त्र
१४) बी.ए.–प्रथम वर्ष–लोकप्रशासन
१५) बी.ए.–प्रथम वर्ष–समाजशास्त्र
१६) बी.ए.–प्रथम वर्ष–ॲडमिनिस्ट्रेटीव्ह सर्व्हिस

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/**६६**
दिनांक : १७.०६.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University, Nanded

Undergraduate Syllabus (C.B.C.S. Pattern) w.e.f. 2019-20

B.A./B.Sc./B.Com./B.S.W. First Year
Compulsory/Additional (S.L.)/Functional/Optional English Syllabus
w.e.f. 2019-20

Compulsory English

Semester	**AECC** Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
I	1	**AECC English Communication**	05	55	35	40	75	03
II	2	**AECC English Communication**	05	55	35	40	75	03

Additional (S.L.) English

Semester	**Additional (S.L.)** Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
I	1	**Additional English**	04	45	35	40	75	03
II	2	**Additional English**	04	45	35	40	75	03

Functional English

Semester	**Functional English** Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
I	1	**Introduction to Phonetics**	04	55	35	40	75	03
I	2	**Communicative Grammar**	04	55	35	40	75	03
II	3	**Developing Writing Skills**	04	55	35	40	75	03
II	4	**Developing Conversational Skills**	04	55	35	40	75	03

Optional English

Semester	Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
I	1	**Understanding Prose Fiction**	04	45	35	40	75	03
	2	**Understanding Poetry**	04	45	35	40	75	03
II	3	**Understanding Non-fictional Prose**	04	45	35	40	75	03
	4	**Understanding Drama**	04	45	35	40	75	03

Compulsory English

Name of the course:
(Ability Enhancement Compulsory Course)**: English Communication**
B.A./B.Sc./B.Com./B.S.W. First Year (Semesters I and II)

Objectives:

1) To enable the leaners to communicate in English through close reading of select literary texts.

2) To develop the skills of speaking, listening, reading, writing, viewing and representing by conducting classroom activities prescribed in the curriculum.

3) To enable the leaners to make the use of English language for shaping and making meaning according to purpose, audience and thecontext.

4) To train the learners think in ways that are imaginative, creative, interpretive and critical.

5) To help the learners for acquiring ways of expressing themselves and their relationships with others and their world.

6) To induce the learners for reflecting on their learning through their study of English.

Intended Outcomes:

1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner.

2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English.

3) Learners will value and appreciate the importance of the English language as a key to learning.

4) Learners will gain the personal enrichment from study of literary pieces in English.

5) Learners will acquire ability to communicate through oral and written texts.

Syllabus:

Unit No.	Content / Title
I- Prose	A)*I have Three Visions for India*: Dr. A.P.J. Abdul Kalam
	B)*Learning from the West* : N.R.Narayana Murthy
II- Short Story	A)*A Living God* : Lafcadio Hearn
	B)*Search for a Stranger*: Gordon Livingston
III- Poetry	A)*My Mistress' Eyes are Nothing Like the Sun* : William Shakespeare
	B) *Bright Star, Would I Were Steadfast as Thou Art* : John Keats
IV- Grammar	A)Language Learning: Word Classes
	B) Communication Skills: Email Correspondence, Job Application, C.V.
V- Essay	A) *The Annihilation of Caste*: Dr. B. R. Ambedkar
	B) *On the Rule of the Road – A. G. Gardiner*
VI- Short Story	A) *An Astrologer's Day* : R.K. Narayan
	B) *The Kid*: Charles Chaplin
VII- Poetry	A) *This Dog* : Rabindranath Tagore
	B) *A Poison Tree* : William Blake
VIII- Grammar	A) Language Learning: Tenses
	B) Communication Skills: Report Writing, Composing News Item

Prescribed Text:***Horizon,*** AECC English Text Book (Macmillan Education, India)
Continuous Internal Evaluation: 35 Marks
Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks

Question Paper Pattern (Semester I)

Question No.	Content	Marks
1	Descriptive answer type questions with internal choice (Based on Units I,II,III)	15
2	Descriptive answer type questions with internal choice (Based on Units I,II, III)	15
3	Questions with internal choice (Based on Unit IV- (A) 05 marks & (B) 05 marks)	10

Question Paper Pattern (Semester II)

Question No.	Content	Marks
1	Descriptive answer type questions with internal choice (based on Units V,VI,VII)	15
2	Descriptive answer type questions with internal choice (based on UnitsV,VI,VII)	15
3	Questions with internal choice (Based on Unit VIII- (A) 05 marks & (B) 05 marks)	10

Additional English

Objectives:

1. To acquaint the second language learners with the finest English short stories from various countries
2. To acquaint the second language learners with the instructive, informative, scientific and entertaining prose pieces.
3. To enrich the basic language skills of the learners

Intended Outcomes:

1. Learners will be able to understand the nuances of English language through the close reading of literary texts.
2. Common errors in the use of English will be avoided.
3. A diversified experience through English prose writings will enable the learners to comprehend the use of English in various contextual situations.

Semester I

Unit No.	Contents	Marks
I	1)*The Strange Case of Dr.Jekyll and Mr.Hyde*: R.L.Stevenson 2) *Of Mice and Men: John Steinbeck*	15
II	1) *I am Legend*: Richard Matheson 2) *A Christmas Carol*: Charles Dickens	15
III	Remedial Grammar: Common Errors in English Usage	10

Semester II

Unit No.	Contents	Marks
IV	1) *A Clockwork Orange*: Anthony Burgess 2) *The Gambler*: Fyodor Dostoevsky	15
V	1)*Fahrenheit 451*: Ray Bradbury 2)*Anthem*: Ayn Rand	15
VI	Remedial Grammar: Common Errors in English Usage	10

The textbook: *Panorama*-to be published as E-book with ISBN by the SRTM UniversityContinuous Internal Evaluation: 35 Marks

Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks

Question Paper Pattern (Semester I)

Question No.	Content	Marks
1	Descriptive answertype question with internal choice (based on Unit I)	15
2	Descriptive answertype question with internal choice (based on UnitII)	15
3	Question with internal choice (based on Unit III)	10

Question Paper Pattern (Semester II)

Question No.	Content	Marks
1	Descriptive answertype question with internal choice (based on Unit IV)	15
2	Descriptive answertype question with internal choice (based on Unit V)	15
3	Question with internal choice (based on Unit VI)	10

Functional English
Semester-I Paper: I Introduction to Phonetics
Objectives

1. To make the learnersfamiliar with English Letters and Sounds through listening.
2. To make learners familiar with the Production of Speech.
3. To enable the learners to achieve accuracy in oral production by encouraging the use of Pronunciation Dictionary. (*Oxford Advanced Learners Dictionary*.)
4. To enable the learners to achieve an optimum level of intelligibility and fluency in speech.

Learning Outcomes

1. Learners will become acquainted with English Letters and Sounds through listening.
2. Learners will be able to use the critical essential skill for speaking.
3. Learners will progress in the direction of attaining fluency in speech.

ESE- 40 Marks and CA- 35 Marks Periods: 55

Course Content: Periods. 45

Unit-I

1. Introduction to Linguistics: Letters and Sounds.
2. Phonetics and Phoneme.

Unit-II

1. The Production of Speech.
2. Description and Classification of Vowel Sounds.
3. Description and Classification of consonant sounds.
4. Consonant Cluster.

Unit-III

1. Syllable and Its Types, Syllabification of Words.
2. Structure of Syllable.
3. The Received Pronunciation.
4. Assimilation and Elision.

Unit-IV

1. Word Transcription and Stress.
2. Sentence Transcription.
3. Weak and Strong Forms.
4. Intonation.

Prescribed text :*A Course book of Functional English* to be published by Swami Ramanand Teerth Marathwada University as E-book

Continuous Internal Evaluation: 35 Marks

Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks

Question Paper Pattern:

Q.1. Question with internal choice based on units -I,II,III 15 Marks.
Q.2. Question based on units -I, II, III15 Marks.
Q. 3. Question based on unit –IV(any one out of two.) 10 Marks.

Paper: II. Communicative Grammar

Objectives of the Study:

1. To enable students to develop grammatical competence.
2. To equip students with appropriate language expressions to communicate effectively in both oral and written communication.
3. To introduce relevant areas of grammar and grammatical patterns to ensure accuracy and fluency in the Speaking and Writing Skills.

Intended Outcomes

1. Learners will develop a certain level of understanding regarding basic grammatical concepts.
2. Learners will be able to use the grammatical patterns for practical purposes.
3. Learners will become familiar to the common English expressions used for written communication in ordinary situations.

Unit-I

1. Articles.
2. Parts of Speech.
3. Tense and Time.
4. Tag questions.

Unit-II

1. Negative and affirmative sentences.
2. Sentence Pattern. (N.P. V.P).
3. Clause Elements: Basic Clause Types.
4. Antonyms and Synonyms.

Unit-III

1. Transformation of Sentences: simple, compound, complex, Active Passive, Direct and Indirect. Degree of comparison.
2. Types of Sentences.
3. Major Question Types.
4. Punctuation in English.

Unit-IV

1. Word formation Process: Bound Morpheme and free morpheme, suffix, affix, root word etc.
2. Difference in form and meaning.
3. Common errors in English.
4. Ambiguity in sentences.

Prescribed text :*A Course book of Functional English* to be published by Swami Ramanand Teerth Marathwada University as E-book

Suggested Readings:

5. *Essential English Grammar*- Raymond and Murphy.
6. *A Communicative Grammar of English*- Geoffrey Leech, London 1998.
7. *Advanced Grammar in Use*, New Delhi: CUP.-2008.
8. *Contemporary English Grammar: Structures and Composition.*

<u>Continuous Internal Evaluation</u>: 35 Marks

Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

<u>End Semester Examination</u>: 40 marks

Question Paper Pattern:

Q.1. Question with internal choice based on units -I, II, III	15 Marks.
Q.2. Question based on units -I, II, III	15 Marks.
Q. 3. Question based on unit –IV (any one out of two.)	10 Marks.

Semester-II

Paper: III. Developing Writing Skills

Objectives:

1. Developing Learners ability to communicate in written form.
2. Enhancing Learners' ability to use language according to situation.
3. Introducing Learners to business communication and its types.

Intended Outcomes

1. Learners will be able to use the English language needed in written documents.
2. Learners will sharpen their skill for various types of written communication.

Unit-I Communication and its Types

1. Verbal Communication.
2. Non-Verbal Communication..

Unit-II Formal Correspondence

1. Writing Job Application.
2. Writing Curriculum Vitae.
3. Email Writing.
4. Complaints.
5. Story Writing based on given outline.

Unit-III Defining and Describing.

1. Students will define day-today-things like places, persons, devices etc.
2. Drafting and editing.

Unit-IV Business Communication

1. Cross- Cultural differences and Communication.
2. Difference between British and American Business English.
3. Writing Reports.
4. Creative Writing.
5. Writing Research Paper, Project.

Suggested Readings:

1. Roman. M. and S. Sharma(2011) *Communication Skills*, OPU, New Delhi.
2. Lata P. and S. Kumar (2001) *Communication Skills* OPU, New Delhi.
3. Freeman, Sarah: *Written Communication in English*
4. *Contemporary English Grammar: Structures and Composition.*

Prescribed text :*A Course book of Functional English* to be published by Swami Ramanand Teerth Marathwada University as E-book

Continuous Internal Evaluation: 35 Marks

Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks

Question Paper Pattern:

Q.1. Question with internal choice based on units -I, II, III 15 Marks.

Q.2. Question based on units -I, II, III 15 Marks.

Q. 3. Question based on unit –III (any one out of two.) 10 Marks.

Paper: IV. Developing Conversational Skills

1. Developing Learners' Conversational Skills and English Vocabulary for use in diverse situations.
2. Creating awareness for Cross- Cultural implications in conversation.
3. Making Learners aware of different communicative patterns.
4. Building confidence in Communication through active participation.

Intended outcomes:

1. Learners will be able to speak in acceptable patterns of everyday English.
2.Learners will become acquainted to neutral English pronunciations.
3. The confidence level of Learners in spoken communication will be enhanced.

Unit-I Communication Skills

1. Interview
2. Giving Personal Information.
3. Oral Presentations on the given topic.

Unit-II Public Speaking

1. Role Playing.
2. Debating.
3. Group Discussion
4. Talking in different situations.

Unit-III Formal and informal communication

Unit-IV Compeering and Anchoring a Programme

Suggested Readings:

1. *Effective Communication and Public Speaking*- MunsdalS.K..
2. *Speaking Effectively*- Jeremy C. Rogerso.
3. *Situational Conversation*- Grant Taylor.
4. *Advanced Conversational English* – Crystal D. and Darey.

Prescribed text :*A Course book of Functional English* to be published by Swami Ramanand Teerth Marathwada University as E-book

Continuous Internal Evaluation: 35 Marks

Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks

Question Paper Pattern:

Q.1. Question with internal choice based on units -I, II, III 15 Marks.

Q.2. Question based on units -I, II, III 15 Marks.

Q. 3. Question based on unit –III (any one out of two.) 10 Marks.

B. A. First Year Optional English Syllabus w.e.f. 2019-20

Name of the course: **Understanding Prose Fiction**

Objectives:

1) To introduce the learners to the basics of Prose Fiction in English through close reading of select literary texts.
2) To develop the skills of analysis, interpretation, and critical scrutiny through the study of selected novels and short stories.
3) To acquaint the learners with the art of fiction writing in English.

Intended Outcome

1) Learners will be able to appreciate the texts in English Prose Fiction genre.
2) Through responding to different texts of Prose Fiction, the learners will acquaint themselves with the wide range of expressions in the English language.
3) Learners will carry out the tasks of interpretation of novels and short stories by studying the critical analyses of the prescribed texts.

Syllabus

Unit No.	Contents
I	The Elements of Prose Fiction
II	Brief History of English Prose Fiction
III	Novel- *The Old Man and the Sea*: Ernest Hemingway
IV	Novella- *Animal Farm*: George Orwell
V	Short Story - A)*The Country of the Blind* : H. G. wells B) *The Three Strangers* : Thomas Hardy
VI	Short Story - A) *The Man from Mars* : Margaret Atwood B) *The Purloined Letter* : Edgar Allen Poe

Prescribed text :*An Anthology of English Prose Fiction* to be published by Macmillan Education

Continuous Internal Evaluation: 35 Marks
Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks
Question Paper Pattern
Question no.1- Essay type question with internal choice (based on Units III and IV)- 15 marks
Question no.2- Essay type question with internal choice (based on Units V and VI)- 15 marks
Question no.3-Short notes with internal choice Q.3(A)–Unit I (One out of Two)Q.3(B)–Unit II (One out of Two) - 10 marks

Paper 2- : Understanding Poetry in English

Objectives:

1) To introduce the learners to the basics of Poetry in English through close reading of select literary texts.
2) To develop the skills of analysis, interpretation, and critical scrutiny through the study of diverse poetic texts.
3) To acquaint the learners with the art of Poetry writing in English.

Intended Outcome:

1) Learners will be able to appreciate English Poetry with an understanding of diverse poetic forms and themes.
2) Through responding to differentPoetic texts the learners will acquaint themselves with the various nuances of poetic expressions in the English language.
3) Learners will carry out the tasks of interpretation of poems by studying the critical analyses of the prescribed texts.

Unit No.	Contents
I	The Elements of Poetry
II	Brief History of English Poetry
III	The Sonnet A)*On His Blindness* : John Milton B) *Amoretti LXXV: One Day I Wrote her Name* : Edmund Spenser C) *Remember* : Christina Rossetti
IV	The Ballad A)*Truth-Ballad of Good Counsel*: Geoffrey Chaucer B) *The Ballad of Reading Gaol*: Oscar Wilde C) *The Ballad of East and West* : Rudyard Kipling
V	The Ode A)*Ode to Duty* : William Wordsworth B) *Ode to Autumn*: John Keats C) *Ode to the West Wind* :P. B. Shelley
VI	The Elegy A) *Elegy III: Change* : John Donne B) *In Memoriam A.H.H.* (*Canto 21*): Alfred Lord Tennyson C) *Elegy Written in a Country Churchyard* : Thomas Gray

Prescribed text :*An Anthology of English Poetry* to be published by Macmillan Education

Continuous Internal Evaluation: 35 Marks
Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks
Question Paper Pattern
Question no.1- Essay type question with internal choice (based on Units III and IV)- 15 marks
Question no.2- Essay type question with internal choice (based on Units V and VI)- 15 marks
Question no.3-Short notes with internal choice Q.3(A)–Unit I (One out of Two)Q.3(B)–Unit II (One out of Two) - 10 marks

Paper 3- : **Understanding Non-Fictional Prose in English**

Objectives:

1) To introduce the learners to the basics of Non-fictional prose in English through close reading of select literary texts.

2) To develop the skills of analysis, interpretation, and critical scrutiny through the study of diverse Non-fictional prose writings.

3) To acquaint the learners with the art of Non-fictional prose in English.

Intended Outcome:

1) Learners will be able to appreciate English Non-fictional prose with an understanding of various prose writings as developed through ages.

2) Through responding to differentProse writings learners will be enriched in the use of prose for diverse thematic expressions.

3) Learners will attain a certain degree of proficiency in the interpretation of English prose.

Unit No.	Contents
I	The Elements of Non-Fictional Prose
II	Brief History of English Non-Fictional Prose
III	The Essay Francis Bacon's essays- *Of Revenge,* *Of Parents and Children,* *Of Marriage and Single Life,* *Of Studies*
IV	Autobiography *Waiting for a Visa*: Dr. B. R. Ambedkar
V	Biography *Life of Milton* : Samuel Johnson
VI	Travelogue *Travels with a Donkey in the Cevennes* : Robert Louis Stevenson

Prescribed text :*An Anthology of English Nonfictional Prose* to be published by Macmillan Education

Continuous Internal Evaluation: 35 Marks
Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks

End Semester Examination: 40 marks
Question Paper Pattern
Question no.1- Essay type question with internal choice (based on Units III and IV)- 15 marks
Question no.2- Essay type question with internal choice (based on Units V and VI)- 15 marks
Question no.3-Short notes with internal choice Q.3(A)–Unit I (One out of Two)Q.3(B)–Unit II (One out of Two) - 10 marks

Paper 4- : **Understanding Drama in English**

Objectives:

1) To introduce the learners to the tradition of drama and the development of dramatic art through ages.

2) To develop the skills of analysis, interpretation, and critical scrutiny through the study of diverse dramatic texts.

3) To acquaint the learners with the art of Drama in English.

Intended Outcome:

1) Learners will be able to appreciate English Drama with an understanding of various dramatic texts.

2) Through responding to differentplays learners will be introduced to various types of dramatic experiences.

3) Learners will be able to critically analyze texts from different dramatic genres.

Unit No.	Contents
I	The Elements of Drama
II	Brief History of English Drama
III	Full Length Play (Five Acts) *Romeo and Juliet* : William Shakespeare
IV	Full Length Play (Three Acts) *Playboy of the Western World* : J.M. Synge
V	Full Length Play (Episodic) *Saint Joan:* George Bernard Shaw
VI	One Act Play A)*Aria da Capo*: Edna St. Vincent Millay B) *Chitra*: Rabindranath Tagore

Prescribed text :*An Anthology of English Drama* to be published by Macmillan Education

Continuous Internal Evaluation: 35 Marks
Two class tests of 10 marks each + Home Assignment/Presentation/Seminar/Project of 15 marks = 35 marks
End Semester Examination: 40 marks
Question Paper Pattern
Question no.1- Essay type question with internal choice (based on Units III and IV)- 15 marks
Question no.2- Essay type question with internal choice (based on Units V and VI)- 15 marks
Question no.3-Short notes with internal choice Q.3(A)–Unit I (One out of two)Q.3(B)–Unit II (One out of two) - 10 marks

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Board of Studies in English

Books to be prescribed and published as texts for new syllabus with effect from 2019-20
1) Undergraduate Level
First year degree course

Sr. No.	Course	Title	Publisher	Format
1	AECC Compulsory English	Horizon: AECC English Textbook	Macmillan Education (India)	Hard Copy
2	Optional English	An Anthology of English Prose Fiction	Macmillan Education (India)	Hard Copy
3	Optional English	An Anthology of English Poetry	Macmillan Education (India)	Hard Copy
4	Optional English	An Anthology of English Drama	Macmillan Education (India)	Hard Copy
5	Optional English	An Anthology of English Nonfictional Prose	Macmillan Education (India)	Hard Copy
6	Functional English	A Coursebook of Functional English-I	Swami Ramanand Teerth Marathwada University	E-Book
7	Functional English	A Coursebook of Functional English-II	Swami Ramanand Teerth Marathwada University	E-Book
8	Additional English(SL)	Panorama	Swami Ramanand Teerth Marathwada University	E-Book

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।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.१३/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

१) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–इंग्रजी (अनिवार्य, अतिरिक्त (द्वितीय भाषा), फंक्शनल इंग्रजी, ऐच्छिक)
२) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–हिंदी (द्वितीय भाषा, ऐच्छिक)
३) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–कन्नड (द्वितीय भाषा, ऐच्छिक)
४) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–मराठी (द्वितीय भाषा, ऐच्छिक)
५) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–पाली (द्वितीय भाषा, ऐच्छिक)
६) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय–संस्कृत (द्वितीय भाषा, ऐच्छिक)
७) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–उर्दू (द्वितीय भाषा, ऐच्छिक)
८) बी.ए.–द्वितीय वर्ष–अर्थशास्त्र
९) बी.ए.–द्वितीय वर्ष–भूगोल
१०) बी.ए.–द्वितीय वर्ष–इतिहास
११) बी.ए.–द्वितीय वर्ष–सैनिकशास्त्र
१२) बी.ए.–द्वितीय वर्ष–तत्त्वज्ञान
१३) बी.ए.–द्वितीय वर्ष–राज्यशास्त्र
१४) बी.ए.–द्वितीय वर्ष–मानसशास्त्र
१५) बी.ए.–द्वितीय वर्ष–लोकप्रशासन
१६) बी.ए.–द्वितीय वर्ष–समाजशास्त्र
१७) बी.ए.–द्वितीय वर्ष–ॲडमिनिस्ट्रेटीव्ह सर्व्हिस

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**२४९**
दिनांक : ०८.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University ,Nanded

C.B.C.S. Pattern Undergraduate Syllabus W.E.F. 2020-21

B.A./B.Sc./B.Com./B.S.W./Fine Arts

Second Year Compulsory/Additional /Functional/Optional English Syllabus w.e.f.2020-21

Compulsory English

Semester	AECC Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
I	3	AECC English Communication	05	55	25	50	75	03
II	4	AECC English Communication	05	55	25	50	75	03

Additional (S.L.) English

Semester	Additional (S.L.) Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
I	3	Additional English	04	45	25	50	75	03
II	4	Additional English	04	45	25	50	75	03

Functional English

Semester	Functional English Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
I	5	Business Communication Skills I	04	45	25	50	75	03
I	6	Functional English Grammar for Communication I	04	45	25	50	75	03
II	7	Business Communication Skills II	04	45	25	50	75	03
II	8	Functional English Grammar for Communication II	04	45	25	50	75	03

Optional English

Semester	Paper No.	Name of the course	Lectures per week	Total periods	C.I.E.	E.S.E.	Total marks	Credits
III	5	Indian Writing in English	04	45	25	50	75	03
	6	American Literature	04	45	25	50	75	03
IV	7	Indian Literature in English Translation	04	45	25	50	75	03
	8	Women's Literature	04	45	25	50	75	03

Compulsory English

Name of the course: (Ability Enhancement Compulsory Course): English Communication

B.A./B.Sc./B.Com./B.S.W./ Fine Arts Second Year (Semesters III and IV)

Objectives:

1) To enhance the ability of the learners to communicate in English through close reading of select literary texts.

2) To develop the skills of speaking, listening, reading, writing, viewing and representing by conducting classroom activities prescribed in the curriculum.

3) To make the learners capable in the use of English language for the purpose of meaningful communication.

4) To impart the creative, interpretive and critical skills through close reading and exercises in the prescribed text.

5) To refine the linguistic competence of the learners through lessons in essential grammar.

6) To carry out a training of using the English language for media and electronic communication.

Intended outcomes

1) The learners will be able to use the English language in a refined way for the personal and social purposes.

2) The students will attain a higher level of understanding and skills in order to carry out communicative activities.

3) Learners will be able to make practical use of the mechanics of the English language.

4) Learners will be acquiring the skill of using English for media and electronic communication.

5) The ability to communicate and interpret written texts shall be augmented.

Syllabus

Module/Unit Number		Content	Title
1	Semester III	Fiction(Short story)	A)*The Model Millionaire*: Oscar Wilde B)*The Lost Child*: Mulk Raj Anand
2		Poetry	A) *The Gift of India*: Sarojini Naidu B) *Desiderata*: Max Ehrmann
3		Non-Fictional Prose	A) *At School*: NetajiSubhash Chandra Bose B)*The Flying Sikh*: Milkha Singh
4		Grammar/ Communication Skills	A) Direct-Indirect Narration B) Writing for the Print Media
5	Semester IV	Fiction(Short story)	A) *The Remorseful Sinner*: Leo Tolstoy B) *The Sniper* : Liam O'Flaherty
6		Poetry	A*) Love*: S.T.Coleridge B) *Courage* : Anne Sexton
7		Non-Fictional Prose	A) *To Youth* : SardarBhagat Singh B) *The Quest for Happiness*: H.H.Dalai Lama
8		Grammar/ Communication Skills	A) Active-Passive Voice B) Writing for the Electronic Media

Prescribed Text :Anthology to be published by The University through publishers Macmillan Education

Continuous Internal Evaluation: 25 Marks (1 Credit)

Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks

End Semester Examination: 50 marks (2 Credits)

Question Paper Pattern (Semester III)

Question No.	Content/Unit/Module	Marks
1	Four Descriptive/Essay Type Questions based on Units/Modules 1, 2, and3	10
2		10
3		10
4		10
5	Question based on Unit/Module 4 A)Grammar B)Communication Skills	5+5=10

Question Paper Pattern (Semester IV)

Question No.	Content/Unit/Module	Marks
1	Four Descriptive/Essay Type Questions based on Units/Modules 5,6, and7	10
2		10
3		10
4		10
5	Question based on Unit/Module 8 A)Grammar B)Communication Skills	5+5=10

Additional English

Objectives

1. To introduce the additional English (second language) learners with the most excellent English literary pieces from various genres.

2. To impart the learners the knowledge of linguistic skills through informative and entertaining literary pieces.

3. To augment the English language skills of the learners through lessons in grammar and usage.

Intended outcomes

1) Learners will be able to read and understand the variety of genres like short stories, short plays, speeches and biographies.

2) Learners will make themselves ready to develop their own views and ideas to analyse, compare and contrast different works of art.

3) Learners will apply their language skills for the effective communication

Semester III

Unit No.	Contents	Marks
I	Biography- 1) *Giotto*: Amy Steedman 2) *Hamilton*: R. S. Ball	10
II	Short Play- 1) *The Stronger Woman*: August Strindberg 2) *A Dollar*: David Pinski	10
III	Short Story- *God Sees the Truth But Waits* : Leo Tolstoy *The Tempest* (Tales from Shakespeare): Charles & Mary Lamb	10
IV	Speech- *I Have a Dream*: Martin Luther King Jr. *The Decision to Go to the Moon*: John F. Kennedy	10
V	Grammar- Transformation of simple sentences into complex and compound sentences	10

The text book: To be published as E -book with ISBN by SRTM University

Continuous Internal Evaluation: 25 Marks (1 Credit)

Average of two Class tests of 10 marks each + Home assignment/presentation/ seminar/ project of 15 marks = 25 marks

End Semester Examination: 50 Marks (2 Cerdits)

Question Paper Pattern (Semester III)

Question Number	Content	Marks
1	Descriptive Answer type question on unit 1	10
2	Descriptive Answer type question on unit 2	10
3	Descriptive Answer type question on unit 3	10
4	Descriptive Answer type question on unit 4	10
5	Do as directed (Solve any 10 out of 12) on Unit 5	10

Semester IV

Unit No.	Contents	Marks
I	Biography- 1) *Shakespeare or the Poet*: Ralph Waldo Emerson 2) *Sir C.V. Raman*: Krishna Bhatt	10
II	Short Play- 1)*The Beggar and the King*: Winthrop Parkhurst 2)*Motherly Love*: August Strindberg	10
III	Short Story- *1) A Dog's Tale*: Mark Twain *2) Romeo and Juliet* (Tales from Shakespeare) : Charles & Mary Lambs	10
IV	Speech- *Citizenship in a Republic*: Theodore Roosevelt *Tryst with Destiny*: Jawaharlal Nehru	10
V	Grammar- Transformation of complex and compound sentences into simple sentences	10

The text book: To be published as E -book with ISBN by SRTM University

Continuous Internal Evaluation: 25 Marks (1 Credit)

Average of two Class tests of 10 marks each + Home assignment/presentation/ seminar/ project of 15 marks = 25 marks

End Semester Examination: 50 Marks(2 Credits)

Question Paper Pattern (Semester IV)

Question Number	Content	Marks
1	Descriptive Answer type question on unit 1	10
2	Descriptive Answer type question on unit 2	10
3	Descriptive Answer type question on unit 3	10
4	Descriptive Answer type question on unit 4	10
5	Do as directed (Solve any 10 out of 12) on Unit 5	10

B.A. Second Year Functional English Syllabus W.E.F. 2020-21

Semester III

Paper V: Business Communication Skills –I

Objectives of the Study

1) Enhancing students' ability to communicate in written and spoken mode

2) Training students to be successful communicators

3) Developing students' awareness about language use according to situation

Intended outcomes

Learners will apply their language skills for the effective communication in English

Unit-I	Importance of Business Communication Elements of Business Communication
Unit-II	Language of Business Facing Communication Challenges
Unit-III	Business Behaviour Business Etiquettes Business Ethics
Unit-IV	Entrepreneurship – Definition Concept of Entrepreneurship
Unit-V	Core Elements of Entrepreneurship Entrepreneurship as a Career

Recommended reading:

1. Ashley, A. (1992) *A Handbook Of Commercial Correspondence*, Oxford University Press.
2. Aswalthapa, K. (1991) *Organisational Behaviour*, Himalayan Publication, Mumbai.
3. Atreya, N. and Guha. (1994) *Effective Credit Management*, MMC School of Management, Mumbai.
4. Bahl,J.C. and Nagamia,S.M. (1974) *Modern Business Correspondence and Minute Writing.*
5. Burton, G and Thakur, (1995) *Management Today- Principles and Practices*. T.M.H., New Delhi
6. Raman, Meenakshi and Sharma, Sangeeta (2004) *Technical Communication: Principles and Practice*, Oxford University Press, New Delhi.

The text book: To be published as E -book with ISBN by SRTM University

Continuous Internal Evaluation: 25 Marks (1 Credit)

Average of two Class tests of 10 marks each + Home assignment/presentation/ seminar/ project of 15 marks = 25 marks

End Semester Examination: 50 Marks (2 Credits)

Question Paper Pattern (Semester III)

Question Number	Content	Marks
1	Descriptive Answer type question on unit 1	10
2	Descriptive Answer type question on unit 2	10
3	Descriptive Answer type question on unit 3	10
4	Descriptive Answer type question on unit 4	10
5	Short notes (two out of four) on unit 5	5+5=10

Paper VI: Functional English Grammar for Communication–I

Objectives of the Study

1) To introduce the students to the speech mechanism

2) To enable them to classify vowels and consonants

3) To acquaint them with the phonetic symbols and phonetic transcription

4) To acquaint them with different features of Spoken English

5) To introduce them to different clause types and their form and function

6) To develop their sensibility towards correctness and appropriateness of language

7) To comment upon the form and meaning

8) To give practice in transformation of sentences

Intended outcomes

Learners will apply their language skills for the effective communication in English

Unit-I	Introduction to Linguistics History of English Language
Unit-II	Production of Speech Sounds Description and Classification of Consonants Description and Classification of Vowels
Unit-III	Affixation Compounding
Unit-IV	Word Classes Noun Phrases Verb Phrases
Unit-V	Types of Main Verbs Auxiliary Verbs Modal Auxiliary Verbs

Recommended reading:

1. *Essential English Grammar*- Raymond Murphy
2. *Intermediate English Grammar*- Raymond Murphy
3. *A Communicative grammar of English*- Geoffery Leech
4. *Modern English*- N. Krishnaswami
5. *Contemporary English Grammar Structures and Composition*- David Green
6. *A Textbook of English Phonetics*- T. Balasubramanian
7. Sethi, J. & P. V. Dhamija, 1997, *A Course in Phonetics and Spoken English*. New Delhi, Prentice-Hal

The text book: To be published as E -book with ISBN by SRTM University

Continuous Internal Evaluation: 25 Marks (1 Credit)

Average of two Class tests of 10 marks each + Home assignment/presentation/ seminar/ project of 15 marks = 25 marks

End Semester Examination: 50 Marks (2 Credits)

Question Paper Pattern (Semester III)

Question Number	Content	Marks
1	Descriptive Answer type question on unit 1	10
2	Descriptive Answer type question on unit 2	10
3	Descriptive Answer type question on unit 3	10
4	Descriptive Answer type question on unit 4	10
5	Short notes (two out of four) on unit 5	5+5=10

Semester IV

Paper VII: Business Communication Skills –II

Objectives of the study

1) Enhance the English pronunciation of the learners

2) Develop their conversational skills in contexts/situations

3) Enhance and expand their English vocabulary

4) Make them aware about the different registers

5) To highlight the difference between British and American business English and its pronunciation.

6) Bring about cross-cultural awareness in conversation

Intended outcomes

Learners will apply their language skills for the effective communication in English

Unit-I	Business Correspondence: Personal, Official and Report Writing
Unit-II	Elements of Written Communication: Agenda, Minutes, Notices, C.V., Drafting an Email
Unit-III	Writing Scripts for Anchoring a Programme Negative Messages, Goodwill Messages, Persuasive Messages
Unit-IV	Teamwork, Social Responsibility, Translation
Unit-V	Difference between Letters and Memos.

Recommended reading:

1. Ashley, A. (1992) *A Handbook Of Commercial Correspondence*, Oxford University Press.
2. Aswalthapa, K. (1991) *Organisational Behaviour*, Himalayan Publication, Mumbai.
3. Atreya, N. and Guha. (1994) *Effective Credit Management*, MMC School of Management, Mumbai.
4. Bahl,J.C. and Nagamia,S.M. (1974) *Modern Business Correspondence and Minute Writing.*
5. Burton, G and Thakur, (1995) *Management Today- Principles and Practices.* T.M.H.,New Delhi
6. Raman, Meenakshi and Sharma, Sangeeta (2004) *Technical Communication: Principles and Practice*, Oxford University Press, New Delhi.

The text book: To be published as E -book with ISBN by SRTM University

Continuous Internal Evaluation: 25 Marks, (1 Credit)

Average of two Class tests of 10 marks each + Home assignment/presentation/ seminar/ project of 15 marks = 25 marks

End Semester Examination: 50 Marks (2 Credits)

Question Paper Pattern (Semester IV)

Question Number	Content	Marks
1	Descriptive Answer type question on unit 1	10
2	Descriptive Answer type question on unit 2	10
3	Descriptive Answer type question on unit 3	10
4	Descriptive Answer type question on unit 4	10
5	Short notes (two out of four) on unit 5	5+5=10

Paper VIII: Functional English Grammar for Communication–II

Objectives of the study

1) To introduce the students to the speech mechanism

2) To enable them to classify vowels and consonants

3) To acquaint them with the phonetic symbols and phonetic transcription

4) To acquaint them with different features of Spoken English

5) To introduce them to different clause types and their form and function

6) To develop their sensibility towards correctness and appropriateness of language

7) To comment upon the form and meaning

8) To give practice in transformation of sentences

Intended outcomes

Learners will apply their language skills for the effective communication in English

Unit-I	Phonemes and Allophones Phonetic Translation Weak Forms
Unit-II	Rhythm Intonation Words in Connected Speech
Unit-III	Adjective Phrase Verb Phrase Adverb Phrase Prepositional Phrase
Unit-IV	Basic Clause Types Compound Sentences Complex Sentences
Unit-V	Form and Meaning Ambiguity Morphological Analysis of Words.

Recommended reading:

1. *Essential English Grammar*- Raymond Murphy
2. *Intermediate English Grammar*- Raymond Murphy
3. *A Communicative grammar of English*- Geoffery Leech
4. *Modern English*- N. Krishnaswami
5. *Contemporary English Grammar Structures and Composition*- David Green
6. *A Textbook of English Phonetics*- T. Balasubramanian
7. Sethi, J. & P. V. Dhamija, 1997, *A Course in Phonetics and Spoken English.* New Delhi, Prentice-Hal

The text book: To be published as E -book with ISBN by SRTM University

Continuous Internal Evaluation: 25 Marks, (1 Credit)

Average of two Class tests of 10 marks each + Home assignment/presentation/ seminar/ project of 15 marks = 25 marks

End Semester Examination: 50 Marks (2 Credits)

Question Paper Pattern (Semester IV)

Question Number	Content	Marks
1	Descriptive Answer type question on unit 1	10
2	Descriptive Answer type question on unit 2	10
3	Descriptive Answer type question on unit 3	10
4	Descriptive Answer type question on unit 4	10
5	Short notes (two out of four) on unit 5	5+5=10

B. A. Second Year Optional English Syllabus W.E.F. 2020-21

Semester III

Paper 5: Indian Writing in English

Objectives

1) To introduces students to Indian Writing in English from Colonial Age up to the contemporary Age, through the study of various literary genres such as poetry, prose, essay and drama.

2) To refine the skills of critical thinking and rhetoric through thought-provoking personal response writing, essay writing and research assignments.

3) To equip students with the knowledge and skills to read and comprehend texts in Indian Writing in English

Intended Outcomes

1) Learners will be able to appreciate the texts in Indian Writing in English

2) Through responding to different texts of Indian Writing in English the learners will acquaint themselves with the wide range of expressions in the Indian English language.

3) Learners will carry out the tasks of literary interpretation by studying the critical analyses of the prescribed texts.

Module/Unit Number	Content	Title/Text
1	Introduction: Brief history	I) A Brief history of Indian Writing in English
2	Poetry	II) *Very Indian Poem in Indian English* :Nissim Ezekiel III) *Prayers to Lord Murugan*: A. K. Ramanujan
3	Fiction	IV) *The Cabuliwallah* : Rabindranath Tagore V) *Hush* : ManoharMalgonkar
4	Prose	VI) *Mother Teresa, Apostle of the Unwanted*: Khushwant Singh
5	Drama	VII) *Tughlaq* : GirishKarnad

Prescribed Text : Anthology to be published by The University through publishers Macmillan Education

Continuous Internal Evaluation: 25 Marks (1 Credit)

Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks

End Semester Examination: 50 marks (2 Credits)

Question Paper Pattern

End Semester Examination-50 Marks

Question Number	Content	Marks
1	Descriptive Answer type question on unit 2	10
2	Descriptive Answer type question on unit 3	10
3	Descriptive Answer type question on unit 4	10
4	Descriptive Answer type question on unit 5	10
5	Short notes (two out of four) on unit 1	5+5=10

Semester III

Paper 6: American Literature

Objectives

1) To address the works of several major writers from the American literary tradition.

2) To introduce the landmarks in American literature in various literary genres.

3) To impart an in depth understanding of writings with dominant debates of the period like religious, social, philosophical, political, and aesthetic aspects of American Literary tradition.

Intended Outcomes

1) The learners willgainan overall insight of the American literature, and understand the background, historical context, the importance of American literature and its role in the society.

2) The learners will identify, explicate, and respond to key themes and elements in American literature in various literary genres.

3) Students will be enabled to review and recognize the body of literary works from America and will be able to understand the American spirit as well as to analyze various literary innovations and their culture.

Module/Unit Number	Content	Title/Text
1	Introduction: Brief history	I) A Brief history of American Literature
2	Poetry	II) *Song of the Open Road*: Walt Whitman III)i) *I, too*; ii) *The Negro Speaks of Rivers* : Langston Hughes
3	Fiction	IV) *To Build A Fire*: Jack London V) *The Celebrated Jumping Frog of Calaveras Country*: Mark Twain
4	Prose	VI) *The American Scholar*: Ralph Waldo Emerson
5	Drama	VII) *All My Sons* : Arthur Miller

Prescribed Text : Anthology to be published by The University through publishers Macmillan Education

Continuous Internal Evaluation: 25 Marks (1 Credit)

Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks

End Semester Examination: 50 marks (2 Credits)

Question Paper Pattern

End Semester Examination-50 Marks

Question Number	Content	Marks
1	Descriptive Answer type question on unit 2	10
2	Descriptive Answer type question on unit 3	10
3	Descriptive Answer type question on unit 4	10
4	Descriptive Answer type question on unit 5	10
5	Short notes (two out of four) on unit 1	5+5=10

Semester IV

Paper 7: Indian Literature in English Translation

Objectives

1) To introduce the students to the magnificent Indian literary tradition through exposition to some representative works available in English translation.

2) To acquaint the students with the rich heritage of Indian regional literatures and their significance.

3) To induce the students to explore in depth the Indian spirit as evident from the diverse genres.

Intended Outcomes

1) The students will acquire an introductory knowledge of Indian literary heritage.

2) The students will be familiarized with the significant socio-cultural issues in India through close reading of literary texts from diverse regions.

3) The students will realize the intellectual potential available from the Indian literary texts from various Indian languages.

Module/Unit Number	Content	Title/Text
1	Introduction: Brief history	I) A Brief history of Indian Literature in English Translation
2	Poetry	II) *Thirukkural* (Ch.79-83) :Thiruvalluvar III) Ghazals (i)*Yehnathihamariquismat* ii) *Dil hi to hai*) : MirzaGhalib
3	Fiction	IV) *Two Bullocks* :MunshiPremchand V) *From Karachi* : Thakazi S. Pillai
4	Prose	VI) *A Corpse in the Well* (selection) : ShankarraoKharat
5	Drama	VII) *Beyond the Land of Hattamala* : BadalSarkar

Prescribed Text : Anthology to be published by The University through publishers Macmillan Education

Continuous Internal Evaluation: 25 Marks (1 Credit)

Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks

End Semester Examination: 50 marks (2 Credits)

Question Paper Pattern

End Semester Examination-50 Marks

Question Number	Content	Marks
1	Descriptive Answer type question on unit 2	10
2	Descriptive Answer type question on unit 3	10
3	Descriptive Answer type question on unit 4	10
4	Descriptive Answer type question on unit 5	10
5	Short notes (two out of four) on unit 1	5+5=10

Semester IV

Paper 8: Women's Literature

Objectives

1) To introduce students to Women's Writing, through the study of various literary genres written by women of different nationalities such as poetry, prose, essay and drama.

2) To equip students with the knowledge and skills to read and comprehend texts written by women.

3) To enable the students for identifying and describing distinct literary characteristics of women's literature.

Intended outcomes

1) Students will be able to critically analyze the structure and meaning of various literary works written by women authors.

2) Students will acquire knowledge of the major concerns of the women through a reading of the representative works from different nations.

3) Students will be acquainted with the richness and depth of the female experience as depicted through their literary representations.

Module/Unit Number	Content	Title/Text
1	Introduction: Brief history	I) A Brief history of Women's Literature
2	Poetry	II) *The Joy of Writing*: WislawaSzymborska III) *Song of Death* : Gabriela Mistral
3	Fiction	IV) *Girls*: MrinalPande V) *Happy Endings* : Margaret Atwood
4	Prose	VI)*We should all be Feminists*: ChimamandaNgoziAdichie
5	Drama	VII) *Trifles* : Susan Glaspell

Prescribed Text : Anthology to be published by The University through publishers Macmillan Education

Continuous Internal Evaluation: 25 Marks (1 Credit)

Class Test /Mid semester exam of 10 marks + Tutorial /Project/Viva of 15 marks= 25 marks

End Semester Examination: 50 marks (2 Credits)

Question Paper Pattern

Question Number	Content	Marks
1	Descriptive Answer type question on unit 2	10
2	Descriptive Answer type question on unit 3	10
3	Descriptive Answer type question on unit 4	10
4	Descriptive Answer type question on unit 5	10
5	Short notes (two out of four) on unit 1	5+5=10

*** * * * ***

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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Fax : (02462) 229574
Website: www.srtmun.ac.in
E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.१३/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

१) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–इंग्रजी (अनिवार्य, अतिरिक्त (द्वितीय भाषा), फंक्शनल इंग्रजी, ऐच्छिक)
२) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–हिंदी (द्वितीय भाषा, ऐच्छिक)
३) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–कन्नड (द्वितीय भाषा, ऐच्छिक)
४) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–मराठी (द्वितीय भाषा, ऐच्छिक)
५) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–पाली (द्वितीय भाषा, ऐच्छिक)
६) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय–संस्कृत (द्वितीय भाषा, ऐच्छिक)
७) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–उर्दू (द्वितीय भाषा, ऐच्छिक)
८) बी.ए.–द्वितीय वर्ष–अर्थशास्त्र
९) बी.ए.–द्वितीय वर्ष–भूगोल
१०) बी.ए.–द्वितीय वर्ष–इतिहास
११) बी.ए.–द्वितीय वर्ष–सैनिकशास्त्र
१२) बी.ए.–द्वितीय वर्ष–तत्त्वज्ञान
१३) बी.ए.–द्वितीय वर्ष–राज्यशास्त्र
१४) बी.ए.–द्वितीय वर्ष–मानसशास्त्र
१५) बी.ए.–द्वितीय वर्ष–लोकप्रशासन
१६) बी.ए.–द्वितीय वर्ष–समाजशास्त्र
१७) बी.ए.–द्वितीय वर्ष–ॲडमिनिस्ट्रेटीव्ह सर्व्हिस

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**२४९**
दिनांक : ०८.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

विषय – **मराठी**

अभ्यासक्रम

मराठी (ऐच्छिक)

व्दितीय भाषा - मराठी (Second Language)

मराठी कौशल्य विकास अभ्यासक्रम (Skill Enhancement Course)

शैक्षणिक वर्ष - **२०२०-२०२१ (जून २०२०) पासून**

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

विषय – **मराठी (जून २०२० पासून लागू)**

पदवी द्वितीय वर्ष अभ्यासक्रम – श्रेयांक पद्धतीनुसार (CBCS)

सत्र पद्धतीनिहाय - मराठी (ऐच्छिक) Elective,**द्वितीय भाषा - मराठी (Second Language)** Generic आणि **मराठी कौशल्य विकास अभ्यासक्रम** Skill Enhancement Course (SEC) अभ्यासक्रम

सत्र	अभ्यासपात्रिका संकेतांक व क्रमांक	अभ्यासपत्रिकेचे नाव	आठवड्याच्या तासिका	एकूण तासिका	अंतर्गत गुण CA	सत्रांत परीक्षा गुण ESE	एकूण गुण	श्रेयांक
III	MAR- **V**	निवडक मराठी गद्य	4	55	25	50	75	3
III	MAR- **V**I	मराठी नाट्यात्म साहित्य	4	55	25	50	75	3
III	S.L.-MAR-III	अक्षरविद्या	4	55	25	50	75	3
III	MAR- SEC - I	मराठी भाषिक कौशल्ये : संभाषण कौशल्ये	3	45	25	25	50	2
IV	MAR- VII	निवडक कादंबरी वाङ्मय	4	55	25	50	75	3
IV	MAR- VIII (अ)	वैचारिक साहित्य	4	55	25	50	75	3
IV	MAR-VIII(ब)	मराठी लोकवाङ्मय	4	55	25	50	75	3

IV	S.L.-MAR-III	साहित्यसरिता	4	55	25	50	75	3
IV	MAR- SEC - II	मराठी भाषिक कौशल्ये : लेखन कौशल्ये	3	45	25	25	50	2

(बी. ए., बी. कॉम., बी. एससी. आणि इतर पदवी द्वितीय वर्षासाठी)

सत्र तिसरे

मराठी (ऐच्छिक) **संकेतांक**

अभ्यासपत्रिका – पाचवी **MAR-** V :- निवडक मराठी गद्य

अभ्यासपत्रिका – सहावी **MAR- VI** :- मराठी नाट्यात्म साहित्य

द्वितीय भाषा - मराठी (Second Language)

अभ्यासपत्रिका – तिसरी S.L.-MAR- III :- 'अक्षरविद्या'

मराठी कौशल्य विकास अभ्यासक्रम Skill Enhancement Course

अभ्यासपत्रिका – पहिली **संकेतांक- MAR- SEC - I** :- मराठी भाषिक कौशल्ये : संभाषण कौशल्ये

सत्र चौथे

मराठी (ऐच्छिक) **संकेतांक**

अभ्यासपत्रिका – सातवी MAR- VII :- निवडक कादंबरी वाङ्मय

अभ्यासपत्रिका – आठवी MAR- VIII (अ) :- वैचारिक साहित्य

किंवा अभ्यासपत्रिका – आठवी MAR- VIII (ब) :- मराठी लोकवाङ्मय

द्वितीय भाषा - मराठी (Second Language)

अभ्यासपत्रिका - चौथी S.L.-MAR- IV :- 'साहित्यसरिता'

मराठी कौशल्य विकास अभ्यासक्रम Skill Enhancement Course

अभ्यासपत्रिका – दुसरी **सांकेतांक - MAR- SEC - II** :- मराठी भाषिक कौशल्ये : लेखन कौशल्ये

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

अभ्यासक्रम - मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०२०-२०२१ पासून

सत्र – तिसरे

सांकेतांक- MAR- V अभ्यासपत्रिका – **पाचवी**

निवडक मराठी गद्य

उद्दिष्टे :

१. मराठी गद्यसाहित्यची ओळख करून देणे.

२. ऐतिहासिक टप्प्यावरील बदलते गद्य अभ्यासणे.

३. मध्ययुगीन आधुनिक काळातील गाड्या लेखनाचे बारकावे तपासणे .

४. गद्य साहित्यातील विविध लेखनप्रकारांची माहिती घेणे.

५. प्रस्तुत अभ्यासक्रमातील अभ्यासघटकांच्या आधारे तत्कालीन परिस्थितीवर प्रकाश टाकणे .

उपयोगिता

१. गद्य संकल्पनेचा परिचय.

२. मानवी मूल्यांची रुजवण .

३. आत्मकथनपर, चरित्रपर, प्रवासवर्णनपर व इतर गद्यसाहित्य निर्मितीस प्रेरक .

४. वाचन आणि लेखन यांची अभिरुची वृद्धिंगत करणे.

५. मराठी साहित्याकडे वाचकांना आकर्षित करणे.

अभ्यास घटक : एकूण तासिका ५५

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास **निवडक मराठी गद्य**

(संपादक : डॉ. जयद्रथ जाधव, डॉ. राजकुमार मस्के, डॉ. लहू वाघमारे) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

बखर गद्य

बलप्रकरण – दूत म्हणजे राजाचे नेत्र – मल्हार रामराव चिटणीस – सप्तप्रकरणातमक राजनीति

पत्र

छत्रपती शिवाजी महाराज यांचे जिवाजी विनायकास पत्र

चरित्र उतारा

विवेकानंद: धर्म आणि विज्ञान – दत्तप्रसाद दाभोलकर – शोध स्वामी विवेकानंदांचा

प्रबोधन

आ. ह. साळुंखे – आता आमच्या धडावर

आत्मचरित्र उतारा

उघडा दरवाजा – रामराजे आत्राम

अनुभव

माझा साक्षात्कारी हृदयरोग - अभय बंग

ललितलेख

गायी घरा आल्या- इंद्रजित भालेराव

व्यक्तिचित्र

मराठवाड्याचे गांधी : गंगाप्रसाद अग्रवाल – उत्तम सूर्यवंशी

प्रश्नपत्रिकेचे प्रारूप – ३ श्रेयांक , ७५ गुण

अंतर्गत मूल्यांकन CA – २५ गुण

अ. घटक चाचणी – १ - १० गुण

आ. गृहपाठ - १ – १० गुण

इ. चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – ५० गुण

१. प्रश्न पहिला अनिवार्य असेल. त्यात ‘अ’ आणि ‘ब’ असे दोन विभाग असतील. ‘अ’मध्ये टिपा असतील. तीन पैकी एक टीप सोडवावी. विभाग ‘ब’ मध्ये एम सी क्यू विचारले जातील त्यांचे स्वरूप वस्तुनिष्ठ प्रश्न या प्रकारचे असेल.
२. प्रश्न क्रमांक दोन ते पाच यांना अंतर्गत पर्याय असतील. या प्रश्नांचे स्वरूप दीर्घोत्तरी प्रश्न अशा प्रकारचे असेल.
३. सर्व प्रश्नांना समान दहा गुण आहेत.
४. अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

अभ्यासक्रम -मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०२०-२०२१ पासून

सत्र – तिसरे

सांकेतांक- MAR- VI अभ्यासपत्रिका – सहावी

मराठी नाट्यात्म साहित्य

उद्दिष्टे : -

१. आधुनिक मराठी नाटकाच्या प्रेरणा समजून घेणे.

२. साठोत्तरी मराठी नाटकाच्या जाणिवांचा अभ्यास करणे .

३. नाट्यप्रकारांचा अभ्यास करणे.

४. जागतिकीकरणाच्या परिप्रेक्ष्यातून मराठी नाटकाची मीमांसा करणे.

५. आधुनिक नाटकाच्या प्रवाहातील वाङ्मयीन आणि रंगमंचीय मूल्यांची मीमांसा करणे.

उपयोगिता

१. आधुनिक मराठी नाटकाचा परिचय .

२. नाट्यप्रवाहातून प्रकटलेल्या मानवी मूल्यांचे आकलन .

३. मराठी वाङ्मय प्रवाहाच्या स्वरूप आणि व्याप्तीचा मागोवा.

४. नाट्यरचना, प्रकार, भाषा आणि प्रतिमासृष्टीचा अभ्यास .

५. मराठी नाट्यप्रवाहातील वैचारिक अधिष्ठानाचा शोध.

अभ्यास घटक : एकूण तासिका ५५

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'मराठी नाट्यात्म साहित्य ' - (संपादक : डॉ. विठ्ठल जंबाले, डॉ. पृथ्वीराज तौर, डॉ. मार्तंड कुलकर्णी) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

लोकनाट्य

खाप-या चोर - अण्णा भाऊ साठे

जलसा

भीमराव कर्डक

प्रहसन

दिनूच्या सासूबाई राधाबाई – बबन प्रभू

नाट्य वेचा

युगांत – महेश एलकुंचवार

स्वगत

शांतता कोर्ट चालू आहे – विजय तेंडूलकर

पथनाट्य

मुलगी झाली हो - ज्योती म्हापसेकर

एकपात्री

व-हाड निघालंय लंडनला – लक्ष्मण देशपांडे

एकांकिका

ग्लोबल आडगाव - अनिलकुमार साळवे

प्रश्नपत्रिकेचे प्रारूप – ३ श्रेयांक , ७५ गुण

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – ५० गुण

प्रश्न पहिला अनिवार्य असेल. त्यात 'अ' आणि 'ब' असे दोन विभाग असतील. 'अ'मध्ये टिपा असतील. तीन पैकी एक टीप सोडवावी. विभाग 'ब' मध्ये एम सी क्यू विचारले जातील त्यांचे स्वरूप वस्तुनिष्ठ प्रश्न या प्रकारचे असेल.

प्रश्न क्रमांक दोन ते पाच यांना अंतर्गत पर्याय असतील. या प्रश्नांचे स्वरूप दीर्घोत्तरी प्रश्न अशा प्रकारचे असेल.

सर्व प्रश्नांना समान दहा गुण आहेत.

अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

अभ्यासक्रम - व्दितीय भाषा - मराठी (Second Language)

शैक्षणिक वर्ष – २०२०-२१ पासून

सत्र – तिसरे

सांकेतांक- MAR- S.L. - III अभ्यासपत्रिका – तिसरी

'अक्षरविद्या'

(बी. ए., बी. कॉम., बी. एससी. आणि इतर पदवी द्वितीय वर्षासाठी)

उद्दिष्टे

१. मध्ययुगीन व आधुनिक मराठी गद्य व पद्याचे स्वरूप- विशेष समजून घेणे आणि सांस्कृतिक पार्श्वभूमी समजून घेणे.

२. मराठी वाङ्मय निर्मितीच्या प्रेरणांची उकल करणे.

३. मराठी साहित्याची आवड निर्माण करणे.

४. मराठी प्रमाण लेखनविषयक नियमांबद्दल जागृती घडविणे.

५. मराठी शब्दांलकारांचा परिचय करणे.

उपयोगिता

१. मध्ययुगीन व आधुनिक गद्य - पद्य वाङ्मयाचा परिचय.

२. मराठीतील वाङ्मयप्रकारांची ओळख.

३. मराठी साहित्यनिर्मिती आणि त्यांच्या प्रेरणा यांचे आकलन .

४. मराठी भाषेतील व्याकरणाचे उपयोजन

५. मराठी गद्य - पद्य घटकांच्या स्वरूपाचे ज्ञान.

अभ्यास घटक : एकूण तासिका ५५

या अभ्यासक्रमासाठी स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'अक्षरविद्या' - (संपादक : डॉ. सा. द. सोनसळे, डॉ. सुनीता सांगोले, डॉ अनिल कांबळे) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

गद्य विभाग

१. हत्तीचा दृष्टांत – दृष्टांतपाठ

२. संत गाडगेबाबा – कीर्तन

३. डॉ. ए पी जे अब्दुल कलाम (अनुवाद- माधुरी शानबाग) – आराधन - अग्निपंख

४. जे. जी. वाडेकर - डॉक्टरी सत्यकथा - सर्जननामा

५. राजा ढाले – थेरबन – अस्तित्वाच्या रेषा

६. विदुर महाजन – भ्रष्टाचाराविरुद्ध लढा – शोधयात्रा

७. प्रकाश खरात – अक्षरांची पहाट

८. करुणा जमदाडे – यशोधरा – कादंबरी अंश

पद्य विभाग

१. संत कान्होपात्रा - अभंग – . नको देवराया अंत आता पाहू

२. संत जनाबाई – अभंग – बाई मी लिहिणे टिकले

३. विलास वैद्य – कुठे दबा धरून बसले आहे तुफान - माझ्या प्रयोगशील देशात

४. रविचंद्र हडसनकर – सरावन महिना आला की –

५. नागराज मंजुळे – माझ्या हाती नसती लेखणी - उन्हाच्या कटाविरुद्ध

६. हनुमंत चांदगुडे – किनकीन घुंगराची – झाड व्हायचं दोघांनी

७. आ. य. पवार – विज्ञान वंदना- धूळपेर

८. शेषराव पिराजी धांडे – बिघडलेले होकायंत्र

व्याकरण विभाग

१. प्रमाण लेखनविषयक नियम – विरामचिन्हे. २. शब्दालंकार – यमक, अनुप्रास

प्रश्नपत्रिकेचे प्रारूप – ३ श्रेयांक , ७५ गुण

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – ५० गुण

प्रश्न पहिला अनिवार्य असेल. त्यात 'अ' आणि 'ब' असे दोन विभाग असतील. 'अ'मध्ये टिपा असतील. तीन पैकी एक टीप सोडवावी. विभाग 'ब' मध्ये एम सी क्यू विचारले जातील त्यांचे स्वरूप वस्तुनिष्ठ प्रश्न या प्रकारचे असेल.

प्रश्न क्रमांक दोन ते पाच यांना अंतर्गत पर्याय असतील. या प्रश्नांचे स्वरूप दीर्घोत्तरी प्रश्न अशा प्रकारचे असेल.

सर्व प्रश्नांना समान दहा गुण आहेत.

अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

मराठी कौशल्य विकास अभ्यासक्रम

Skill Enhancement Course

शैक्षणिक वर्ष – २०२०-२१ पासून

सत्र – तृतीय

सांकेतांक- MAR- SEC - I अभ्यासपत्रिका – पहिली

'मराठी भाषिक कौशल्ये : संभाषण कौशल्ये '

(बी. ए., बी. कॉम., बी. एससी. आणि इतर पदवी द्वितीय वर्षासाठी)

उद्दिष्टे

१. विद्यार्थ्यांच्या भाषिक क्षमतांचा विकास करणे
२. संभाषण कौशल्ये विकसित करणे
३. मराठी भाषेचे उपयोजन लक्षात घेणे.
४. विविध व्यवसायातील संधी लक्षात घेणे
५. मराठी भाषेच्या वैशिष्ट्यांची ओळख करून देणे

उपयोगिता

१. संभाषण कौशल्य विकासाला सहाय्य.
२. मराठी भाषा क्षमतेच्या वाढीस मदत.
३. संभाषण क्षेत्राची दारे खुली
४. विविध व्यवसाय क्षेत्रात संधी

अभ्यास घटक

या अभ्यासक्रमासाठी स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'व्यक्तिमत्व विकासासाठी: संभाषण व लेखन कौशल्ये ' - (संपादक : डॉ. पृथ्वीराज तौर, डॉ. शैलेन्द्र लेंडे, डॉ. वंदना महाजन) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

संभाषण कौशल्ये- एकूण तासिका ४५

१. संभाषण कौशल्ये – राजेंद्र थोरात
२. सूत्रसंचालन — प्रतिभा कदम / जतीन कदम
३. मुलाखत – शैलेश त्रिभुवन / रवींद्र बेम्बरे
४. वक्तृत्व– पुंडलिक कोलते

(विद्यार्थ्यांनी महाविद्यालयातील कार्यक्रमाचे सूत्रसंचालन करणे, परिसरातील विशेष उल्लेखनीय व्यक्तीची मुलाखत घेणे आणि किमान सात ते दहा मिनिटे सार्वजनिक ठिकाणी भाषण करणे अपेक्षित आहे. यादृष्टीने नियोजन अपेक्षित आहे.)

प्रश्नपत्रिकेचे प्रारूप - श्रेयांक ०२ , एकूण गुण ५०

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – २५ गुण

१. कौशल्य विकास प्रकल्प कार्य – १० गुण
२. कौशल्य मुल्यांकन – १० गुण
३. कौशल्यकार्याचे सादरीकरण – ०५ गुण
४. अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड
अभ्यासक्रम - मराठी (ऐच्छिक)
शैक्षणिक वर्ष – २०२० -२०२१ पासून
सत्र – चौथे

सांकेतांक- MAR- VII **अभ्यासपत्रिका – सातवी**

निवडक कादंबरी वाङ्मय

उद्दिष्टे

1) कादंबरी वाड्मय प्रकार समजून देणे.
2) मराठी कादंबरी वाड्मयाचे कालानुक्रमे स्वरूप समजून देणे.
3) कादंबरी वाड्मयाचे लेखनानुसार विविध प्रकाराची ओळख करून देणे.
4) कादंबरी वाड्मयात विद्यार्थ्यांची अभिरूची निर्माण करणे.

उपयोगिता

1) कादंबरी वाड्मयाच्या विविध प्रकाराची ओळख होते.
2)विद्यार्थ्यांची कथात्मदृष्टी विकसित होते.
3) कादंबरी अध्ययनामुळे जीवन आकलनकक्षा रूंदावतात.
4) भाषिक आणि वाङ्मयीन सौन्दर्यदृष्टीचा विकास.
5) मराठीच्या विविध बोलींचा परिचय .

अभ्यास घटक : एकूण तासिका ५५

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून ' **निवडक कादंबरी वाङ्मय** ' -(संपादक : डॉ. विठ्ठल जंबाले, डॉ. पंढरीनाथ धोंडगे, डॉ. बी. आर. दहिफळे) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

बोलीभाषेतील कादंबरी

मेड इन इंडिया (पुरुषोत्तम बोरकर)

संज्ञाप्रवाही कादंबरी

रात्र काळी घागर काळी (चि त्र्यं खानोलकर)

सामाजिक कादंबरी

नटरंग (आनंद यादव)

राजकीय कादंबरी

ताम्रपट (रंगनाथ पठारे)

स्त्रीवादी कादंबरी

ब्र (कविता महाजन)

व्यक्तिचित्रणात्मक कादंबरी

मी सावित्री जोतीराव (कविता मुरूमकर)

ऐतिहासिक कादंबरी

सकल दक्षिण दिग्धाधिपती (पंडितराव देशमुख)

आत्मकथनात्मक कादंबरी

फेसाटी (नवनाथ गोरे)

प्रश्नपत्रिकेचे प्रारूप – ३ श्रेयांक , ७५ गुण

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – ५० गुण

प्रश्न पहिला अनिवार्य असेल. त्यात 'अ' आणि 'ब' असे दोन विभाग असतील. 'अ'मध्ये टिपा असतील. तीन पैकी एक टीप सोडवावी. विभाग 'ब' मध्ये एम सी क्यू विचारले जातील त्यांचे स्वरूप वस्तुनिष्ठ प्रश्न या प्रकारचे असेल.

प्रश्न क्रमांक दोन ते पाच यांना अंतर्गत पर्याय असतील. या प्रश्नांचे स्वरूप दीर्घोत्तरी प्रश्न अशा प्रकारचे असेल.

सर्व प्रश्नांना समान दहा गुण आहेत.

अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

अभ्यासक्रम - मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०२०-२०२१पासून

सत्र – चौथे

सांकेतांक- MAR- VIII **अभ्यासपत्रिका – आठवी**

वैचारिक साहित्य

उद्दिष्टे

१. वाङ्मयीन व भाषिक आकलन क्षमता वाढविणे .

२. कालानुक्रमे अभ्यास घटकांद्वारे अध्ययन सुलभता निर्माण करणे.

३. आधुनिक कालखंडातील विचारधारा समजून देणे.

४ . अभ्यासाच्या व लेखनाच्या अभिरुची विकसित करणे.

५. वैचारिक वाङ्मयाचा परिचय घडविणे.

उपयोगिता

१. विचारधारांची ओळख.

२. मानवी मूल्यांचं आकलन.

३. भाषिक आणि वाङ्मयीन सौन्दर्य दृष्टीचे विकसन.

४. विविध तत्त्वज्ञानाचा परिचय.

५. सामाजिक प्रश्नांची ओळख.

अभ्यास घटक अभ्यास घटक : एकूण तासिका ५५

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून ' **विचारवेध** ' (संपादक : डॉ केशव सखाराम देशमुख, डॉ. बाबुराव भिवाजी खंदारे, डॉ. पी. विठ्ठल) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

१. लोकहितवादी

२. महात्मा जोतीराव फुले

३. ताराबाई शिंदे

४. महाराजा सयाजीराव गायकवाड

५. प्रबोधनकार ठाकरे

६. गोविंद पानसरे

७. शरद पाटील

८. यशवंत मनोहर

प्रश्नपत्रिकेचे प्रारूप – ३ श्रेयांक , ७५ गुण

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – ५० गुण

प्रश्न पहिला अनिवार्य असेल. त्यात 'अ' आणि 'ब' असे दोन विभाग असतील. 'अ'मध्ये टिपा असतील. तीन पैकी एक टीप सोडवावी. विभाग 'ब' मध्ये एम सी क्यू विचारले जातील त्यांचे स्वरूप वस्तुनिष्ठ प्रश्न या प्रकारचे असेल.

प्रश्न क्रमांक दोन ते पाच यांना अंतर्गत पर्याय असतील. या प्रश्नांचे स्वरूप दीर्घोत्तरी प्रश्न अशा प्रकारचे असेल.

सर्व प्रश्नांना समान दहा गुण आहेत.

अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

अभ्यासक्रम - मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०२०-२०२१पासून

सत्र – चौथे

संकेतांक- MAR- VIII **अभ्यासपत्रिका – आठवी**

मराठी लोकवाङमय

उद्दिष्टे

१. वाङ्मयीन व भाषिक आकलन क्षमता वाढविणे .

२. अध्ययन सुलभता निर्माण करणे.

३. लोक संस्कृतीचे स्वरूप समजून देणे.

४. अभिरुची विकसित करणे.

५. लोकपरंपरांचा परिचय घडविणे.

उपयोगिता

१. लोकधारांची ओळख.

२. मानवी मूल्यांचं आकलन.

३. भाषिक आणि वाङ्मयीन सौन्दर्य दृष्टीचे विकसन.

४. विविध लोकपरंपरांचा परिचय.

५. सांस्कृतिक प्रश्नांची ओळख.

अभ्यास घटक : एकूण तासिका ५५

१. लोकवाङमय: संकल्पना व स्वरूप

२. लोककथा

३. लोकगीत

४. ओवी, उखाणे, म्हणी व वाक्प्रचार

५. लोकसमाजुती, लोकोक्ती, लोकभ्रम, प्रथा इ.

संदर्भ ग्रंथ

लोक संस्कृतीचे उपासक – रा. चिं. ढेरे

लोकदैवतांचे विश्व – रा. चिं. ढेरे

लोक संस्कृतीची क्षितिजे – रा. चिं. ढेरे
लोक साहित्याचे अंत:प्रवाह – प्रभाकर मांडे
लोकरंगभूमी – प्रभाकर मांडे
सीमावर्ती लोकगीते: आस्वाद आणि आकलन – विठ्ठल जंबाले
भेदिक कविता: स्वरूप आणि लावणी – महादेव देशमुख
विदर्भाचा डहाका - हरिश्चंद्र बोरकर
दळण दळीते दळीते... धर्म माझा जागविते – सुभाष शेकडे
लोकसाहित्याची रूपरेषा – दुर्गा भागवत
लोकसंचित – तारा भवाळकर
सण उत्सवाची गाणी - चत्रभुज कदम

प्रश्नपत्रिकेचे प्रारूप – ३ श्रेयांक , ७५ गुण

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – ५० गुण

प्रश्न पहिला अनिवार्य असेल. त्यात 'अ' आणि 'ब' असे दोन विभाग असतील. 'अ'मध्ये टिपा असतील. तीन पैकी एक टीप सोडवावी. विभाग 'ब' मध्ये एम सी क्यू विचारले जातील त्यांचे स्वरूप वस्तुनिष्ठ प्रश्न या प्रकारचे असेल.

प्रश्न क्रमांक दोन ते पाच यांना अंतर्गत पर्याय असतील. या प्रश्नांचे स्वरूप दीर्घोत्तरी प्रश्न अशा प्रकारचे असेल.

सर्व प्रश्नांना समान दहा गुण आहेत.

अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

अभ्यासक्रम - व्दितीय भाषा - मराठी (Second Language)

शैक्षणिक वर्ष – २०२०-२१ पासून

सत्र – चौथे

सांकेतांक- MAR- S.L. - IV अभ्यासपत्रिका – चौथी

'साहित्यसरिता '

(बी.ए., बी. कॉम., बी. एससी. आणि इतर पदवी द्वितीय वर्षासाठी)

उद्दिष्टे

१. विद्यार्थ्यांची भाषिक जाणीव समृध्द करणे.

२. मराठी साहित्याची परंपरा व स्वरूपाचा परिचय करून देणे.

३. विद्यार्थ्यांचे वैचारिक पोषण करणे.

४. मराठी साहित्याची आवड निर्माण करणे.

५. मराठी भाषा उपयोजन.

उपयोगिता

१. मध्ययुगीन व आधुनिक गद्य - पद्य वाङ्मयाचा परिचय.

२. मराठीतील वाङ्मयप्रकारांची ओळख.

३. मराठी साहित्यनिर्मिती आणि त्यांच्या प्रेरणा यांचे आकलन .

४. मराठी भाषेतील व्याकरणाचे उपयोजन

५. मराठी गद्य - पद्य घटकांच्या स्वरूपाचे ज्ञान.

अभ्यास घटक : एकूण तासिका ५५

या अभ्यासक्रमासाठी स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'साहित्यसरिता ' - (संपादक : डॉ. सुनिता सांगोले, डॉ. मथु सावंत, डॉ. सुभाष कदम) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

गद्य विभाग

१. नांग-याचे बळ – गाथासप्तशती – गाथा ७८९

२. मुकुंदराव पाटील – शेतक-यांची स्थिती – सत्यशोधकांचे शेतकरीविषयक विचार

३. लिओ टॉलस्टॉय (अनुवाद - साने गुरुजी) - कलाक्षेत्रातील श्रेष्ठत्ववाद – कला म्हणजे काय?

४. गंगाधर पानतावणे – न्युयॉर्कची परिषद

५. जनार्दन वाघमारे – महात्मा बसवेश्वर
६. शिरीष गोपाळ देशपांडे – नाट्यगृहाच्या फे-यात – बावनवीर
७. भास्कर बडे – खिला-या – खिला-या
८. उर्मिला चाकूरकर – तिआनमेन चौक – ड्रॅगनच्या देशात

पद्य विभाग

१. संत मुक्ताबाई - मुंगी उडाली आकाशी
२. संत नामदेव – अभंग
३. बी रघुनाथ – ते न तिने कधी ओळखिले – पुन्हा नभाच्या लाल कडा
४. उत्तम कोळगावकर – काळजाच्या विस्कटलेल्या चिंध्या – जंगलझडी
५ अविनाश आवलगावकर – पेरणी
६. शशिकांत हिंगोणेकर – मी वाट पहातोय - ऋतुपर्व
७.जितेंद्र कुवर – तू एकदा पुनवेचा – व्हाईट लिली
८ दयासागर बन्ने – पाखरांचे हायकू – तिफण

व्याकरण विभाग

१. समास – द्वंद्व , बहुव्रीही
२. अर्थालंकार – उत्प्रेक्षा, रूपक, उपमा

प्रश्नपत्रिकेचे प्रारूप – ३ श्रेयांक , ७५ गुण

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – ५० गुण

प्रश्न पहिला अनिवार्य असेल. त्यात ‘अ’ आणि ‘ब’ असे दोन विभाग असतील. ‘अ’मध्ये टिपा असतील. तीन पैकी एक टीप सोडवावी. विभाग ‘ब’ मध्ये एम सी क्यू विचारले जातील त्यांचे स्वरूप वस्तुनिष्ठ प्रश्न या प्रकारचे असेल.

प्रश्न क्रमांक दोन ते पाच यांना अंतर्गत पर्याय असतील. या प्रश्नांचे स्वरूप दीर्घोत्तरी प्रश्न अशा प्रकारचे असेल.

सर्व प्रश्नांना समान दहा गुण आहेत.

अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

मराठी कौशल्य विकास अभ्यासक्रम

Skill Enhancement Course

शैक्षणिक वर्ष – २०२०-२१ पासून

सत्र – चतुर्थ

सांकेतांक- MAR- SEC - II अभ्यासपत्रिका – दुसरी

'मराठी भाषिक कौशल्ये : लेखन कौशल्ये '

(बी. ए., बी. कॉम., बी. एससी. आणि इतर पदवी द्वितीय वर्षासाठी)

उद्दिष्टे

१. विद्यार्थ्यांच्या भाषिक क्षमतांचा विकास करणे
२. लेखन कौशल्ये विकसित करणे
३. मराठी भाषेचे उपयोजन लक्षात घेणे.
४. विविध व्यवसायातील संधी लक्षात घेणे
५. मराठी भाषेच्या वैशिष्ट्यांची ओळख करून देणे

उपयोगिता

१. लेखन कौशल्य विकासाला सहाय्य.
२. मराठी भाषा क्षमतेच्या वाढीस मदत.
३. लेखन क्षेत्राची दारे खुली
४. विविध व्यवसाय क्षेत्रात संधी

अभ्यास घटक

या अभ्यासक्रमासाठी स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'व्यक्तिमत्व विकासासाठी संभाषण व लेखन कौशल्ये ' - (संपादक : डॉ. पृथ्वीराज तौर, डॉ. शैलेन्द्र लेंडे, डॉ. वंदना महाजन) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमलेले आहे.

लेखन कौशल्ये - एकूण तासिका ४५

१. लेखन कौशल्ये - प्रतीक्षा तालंगकर
२. संवाद लेखन - राजकुमार तांगडे
३. जाहिरात लेखन – रवी पवार
४. गीतलेखन – विनायक पवार

(विद्यार्थ्यांनी सदरील लेखन कौशल्ये आत्मसात करावयाची आहेत. नाटक, चित्रपट व श्रुतिका यातील संवाद, निरनिराळ्या माध्यमांसाठी महाविद्यालय अथवा संस्थेची कल्पक व अभिनव जाहिरात त्याप्रमाणे महाविद्यालय-विशिष्ट कार्यक्रम-प्रसंग याबद्दल प्रत्यक्ष गीतनिर्मिती करावयाची आहे.)

प्रश्नपत्रिकेचे प्रारूप – ५० गुण , २ श्रेयांक

अंतर्गत मूल्यांकन CA – २५ गुण

घटक चाचणी – १ - १० गुण

गृहपाठ - १ – १० गुण

चर्चासत्र – १ - ०५ गुणांसाठी

सत्रांत मूल्यमापन ESE – २५ गुण

1. कौशल्य विकास प्रकल्प कार्य – १० गुण
2. कौशल्य मुल्यांकन – १० गुण
3. कौशल्यकार्याचे सादरीकरण – ०५ गुण
4. अभ्यासपत्रिकेतील सर्व घटकांवर प्रश्न विचारण्यात येतील.

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
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ACADEMIC (1-BOARD OF STUDIES) SECTION
Phone: (02462) 229542
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३० एप्रिल २०१९ रोजी संपन्न झालेल्या ४३व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.५/४३–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

१) बी.ए.–प्रथम वर्ष–इंग्रजी (अनिवार्य, अतिरिक्त (द्वितीय भाषा), फंक्शनल इंग्रजी, ऐच्छिक)
२) बी.ए.–प्रथम वर्ष–हिंदी (द्वितीय भाषा, ऐच्छिक)
३) बी.ए.–प्रथम वर्ष–मराठी (द्वितीय भाषा, ऐच्छिक)
४) बी.ए.–प्रथम वर्ष–पाली (द्वितीय भाषा, ऐच्छिक)
५) बी.ए.–प्रथम वर्ष–संस्कृत (द्वितीय भाषा, ऐच्छिक)
६) बी.ए.–प्रथम वर्ष–उर्दू (द्वितीय भाषा, ऐच्छिक)
७) बी.ए.–प्रथम वर्ष–अर्थशास्त्र
८) बी.ए.–प्रथम वर्ष–भूगोल
९) बी.ए.–प्रथम वर्ष–इतिहास
१०) बी.ए.–प्रथम वर्ष–सैनिकशास्त्र
११) बी.ए.–प्रथम वर्ष–तत्त्वज्ञान
१२) बी.ए.–प्रथम वर्ष–राज्यशास्त्र
१३) बी.ए.–प्रथम वर्ष–मानसशास्त्र
१४) बी.ए.–प्रथम वर्ष–लोकप्रशासन
१५) बी.ए.–प्रथम वर्ष–समाजशास्त्र
१६) बी.ए.–प्रथम वर्ष–ॲडमिनिस्ट्रेटीव्ह सर्व्हिस

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/**६६**
दिनांक : १७.०६.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

विषय – **मराठी**

अभ्यासक्रम - **मराठी (ऐच्छिक) & व्दितीय भाषा - मराठी (Second Language)**

शैक्षणिक वर्ष - **२०१९-२०२०(जून २०१९) पासून**

(बी.ए., बी.कॉम., बी.एससी. आणि इतर पदवी प्रथम वर्षासाठी)

सत्र पहिले

मराठी (ऐच्छिक)- **संकेतांक**

अभ्यासपत्रिका - पहिली **MAR- I** :- अभ्यासपत्रिका : आधुनिक मराठी कथा वाङ्मय

अभ्यासपत्रिका - दुसरी **MAR- II**:- अभ्यासपत्रिका : मध्ययुगीन आणि आधुनिक मराठी पद्य वाङ्मय

व्दितीय भाषा - मराठी (Second Language)- S.L.

अभ्यासपत्रिका - पहिली - MAR-SL-1 :- 'अक्षरलेणी '

सत्र – दुसरे

अभ्यासपत्रिका - तिसरी MAR- III :- मराठी कथात्म साहित्य

अभ्यासपत्रिका - चौथी MAR- IV :- आधुनिक मराठी कविता

व्दितीय भाषा - मराठी (Second Language)- S.L.

अभ्यासपत्रिका - दुसरी - MAR- SL- 2 :- 'साहित्यशिल्प'

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

अभ्यासक्रम - मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सत्र - पहिले

संकेतांक- MAR- I **अभ्यासपत्रिका - पहिली**

अभ्यासपत्रिका : आधुनिक मराठी कथा वाङ्मय

उद्दिष्टे

1)कथा वाङ्मय प्रकार समजून घेणे.

2)मराठी कथा वाङ्मयाचे कालानुक्रमे स्वरूप समजून घेणे.

3)कथा वाङ्मयाच्या विविध प्रकाराची ओळख करून घेणे.

4)कथा वाङ्मयाची अभिरूची निर्माण करणे.

उपयोगिता

1)कथा वाङ्मयाच्या विविध प्रकारांची ओळख.

2)विद्यार्थ्यांची कथात्मदृष्टी विकसित करणे.

3) साहित्याभिरुचीच्या आकलनकक्षा रूंदावणे.

4) भाषिक आणि वाङ्मयीन सौंदर्यदृष्टीचा विकास.

5) मराठीच्या विविध बोलींचा परिचय.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठाच्या मराठी अभ्यास मंडळाने 'कथाशिल्प' (संपादक- डॉ. जयद्रथ जाधव, डॉ. सुनिता सांगोले, डॉ. जयदेवी पवार) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमले आहे.

अभ्यासघटक

1) अतिथी देवो भव! - वामन चोरघडे

2) मोत्याचे पीक - वि.स.खांडेकर

3) किडलेली माणसं - गंगाधर गाडगीळ

4) विलायती पीक - शंकर पाटील

5) वाळवण - रा.रं.बोराडे

6) निर्वासित - अविनाश डोळस

7) कु-हाडीचे दांडे - श्रीराम गुंदेकर

8) वारसा - सानिया

9) शुद्ध बीजापोटी - रेखा बैजल

10) बरकत - साहिल शेख

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

अभ्यासक्रम - मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सत्र - पहिले

संकेतांक- MAR- II **अभ्यासपत्रिका - दुसरी**

अभ्यासपत्रिका : मध्ययुगीन आणि आधुनिक मराठी पद्य वाङ्मय -II

उद्दिष्टे : -

१. वाङ्मयीन व भाषिक आकलनक्षमता वाढविणे .

२. कालानुक्रमे अभ्यास घटकांद्वारे अध्ययन सुलभता निर्माण करणे.

३. मध्ययुगीन आणि आधुनिक कालखंडातील कवितेच्या विचारधारा समजून घेणे.

४. कविता अभ्यासाच्या व लेखनाच्या अभिरुची विकसित करणे.

५. काव्य वाङ्मयाचा परिचय घडविणे.

उपयोगिता

१. काव्यप्रवाहातील विचारधारांची ओळख.

२. कवितेमधून प्रकट झालेल्या मानवी मूल्यांचे आकलन.

३. भाषिक आणि वाङ्मयीन सौंदर्यदृष्टीचे विकसन.

४. कवितेच्या विविध रचनाप्रकारांचा परिचय.

५. प्राचीन आणि आधुनिक काव्यप्रकारांची ओळख.

अभ्यासघटक

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'काव्यशिल्प' (संपादक : डॉ मार्तंड कुलकर्णी , डॉ बाबुराव खंदारे व डॉ संतोष हंकारे) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमले आहे.

१.धवळे -	महदंबा
२. पाप्या नावडे संत संगती -	संत नामदेव
३. घनु वाजे घुणघुणा -	संत ज्ञानेश्वर
४. विठो माझा लेकुरवाळा -	संत जनाबाई
५.देवा नाही रुप देवा नाही नाम-	संत चोखामेळा
६. विंचू चावला (भारुड) -	संत एकनाथ
७. दोन अभंग -	संत मन्मथ शिवलिंग स्वामी
८. दोन अभंग -	संत तुकाराम
९. धिग् धिग धिग जिणें तुझे रे -	वामन पंडित
१०. घनःश्याम सुंदरा -	होनाजी बाळा
११. सुंदरा मनामध्ये भरली -	शाहीर राम जोशी
१२. शिवाजीचा पोवाडा -	महात्मा जोतीराव फुले
१३. आम्ही कोण? -	केशवसुत
१४. डोळे हे जुल्मी गडे -	भा. रा. तांबे

१५. रगडणी - बहिणाबाई चौधरी

१६. सागरास - वि. दा. सावरकर

१७. औदुंबर - बालकवी

१८. नदीपल्याड - ग. ल. ठोकळ

१९. ह्या गंगेमधि गगन वितळले- बा.सी. मर्ढेकर

२०. कणा - कुसुमाग्रज

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

अभ्यासक्रम - मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सत्र - दुसरे

सांकेतांक- MAR- III अभ्यासपत्रिका - **तिसरी**

अभ्यासपत्रिका : मराठी कथात्म साहित्य

उद्दिष्टे :

१. मराठी साहित्य आणि संस्कृतीची ओळख करुन घेणे.

२. महान व्यक्तिमत्वाचा परिचय घडविणे.

३. महापुरुषांच्या अनुभूतींवर प्रकाश टाकणे .

४. कथात्म साहित्यातील विविध लेखनप्रकारांची माहिती.

५. समाज परिस्थितीवर प्रकाश टाकणे .

उपयोगिता

१. महामानवाच्या व्यक्तिमत्वामधून प्रेरणा.

२. मानवी मूल्यांची रुजवणूक करणे.

३. आत्मकथनपर, चरित्रपर, प्रवासवर्णनपर व इतर कथात्म साहित्यनिर्मितीस प्रेरक वतावरणनिर्मिती.

४. वाचन आणि लेखन अभिरुची वृद्धिंगत करणे.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'कथात्म मराठी साहित्य ' -(संपादक : डॉ मथु सावंत, डॉ विठ्ठल जम्बाले व डॉ मल्लिकार्जुन तंगावार) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमले आहे.

अभ्यास घटक :

चरित्र

१. अंगुलीमालाची धम्मदीक्षा - डॉ. बाबासाहेब आंबेडकर

२. छ. शिवाजी महाराजांचे गुणसंकीर्तन - कृष्णराव केळुसकर

३ अव्दितीय स्वातंत्र्ययोद्धा - संजय सोनवणी

आत्मकथन

४. पावनगड - महर्षी वि. रा. शिंदे

५. मी शाळेत जातो - लक्ष्मण माने

६. झपाटलेपण - प्रतीक्षा लोणकर

कथा, प्रवासवर्णन, ललित गद्य व कादंबरीअंश

७. शेवंतीचा खराटा - श्री. म. माटे

८. दोन ज्ञानचक्षू - पु. ल. देशपांडे

९. श्रावण - द. ता. भोसले

१०. मराठवाड्याचा दुष्काळ - सुशील धसकटे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

अभ्यासक्रम -मराठी (ऐच्छिक)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सत्र - दुसरे

सांकेतांक- MAR- IV अभ्यासपत्रिका - चौथी

अभ्यासपत्रिका : आधुनिक मराठी कविता

उद्दिष्टे : -

१. आधुनिक मराठी कवितेच्या प्रेरणा समजून घेणे.

२. साठोत्तरी मराठी कवितांच्या विविधांगी जाणिवांचा अभ्यास करणे .

३. मार्क्सवादी, आंबेडकरवादी आणि स्त्रीवादी कवितेच्या जाणिवांचा अभ्यास करणे.

४. जागतिकीकरणाच्या परिप्रेक्ष्यातून मराठी कवितेची मीमांसा करणे.

५. आधुनिक कवितेच्या प्रवाहातील वाङ्मयीन आणि मानवी मूल्यांची मीमांसा करणे.

उपयोगिता

१. आधुनिक मराठी कवितेचा परिचय .

२. काव्यप्रवाहातील प्रकटलेल्या मानवी मूल्यांचे आकलन .

३. कवितेचे रचनाप्रकार, भाषा आणि प्रतिमासृष्टीचा अभ्यास .

४. मराठी काव्य प्रवाहातील वैचारिक अधिष्ठानांचा शोध.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'आधुनिक मराठी कविता ' (संपादक : डॉ बाबुराव खंदारे, डॉ जयद्रथ जाधव व डॉ आनंद इंजेगावकर) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमले आहे.

अभ्यासघटक :

साठोत्तरी मराठी कविता

१. कुणाच्या खांद्यावर -	आरती प्रभू
२. दान -	ग्रेस
३. दुःखाचा अंकुश -	भालचंद्र नेमाडे

मार्क्सवादी कविता

४. भविष्याच्या गर्भातल्या बाळाचे रुदन -	शरच्चंद्र मुक्तिबोध
५. तोवर तुला मला -	नारायण सुर्वे

आंबेडकरवादी कविता

६. जग बदल घालुनी घाव -	अण्णा भाऊ साठे
७. अजून थोडा वेळ -	नामदेव ढसाळ
८. पुन्हा एकदा -	यशवंत मनोहर

ग्रामीण कविता

९. हळद लावाया — लक्ष्मण मलगीरवार

१०. बैल दौलतीचा धनी - — रामदास केदार

आदिवासी कविता

११. बिरसा मुंडा — भुजंग मेश्राम

स्त्रीवादी कविता

१२. थेरीगाथा इसवी सन दोन हजार सहा — प्रज्ञा दया पवार

१३. निष्णात — सारिका उबाळे परळकर

मुस्लिम कविता

१४. असे कसे म्हणता येईल - — फ. म. शहाजिंदे

१५. मी टेकले नाहीत हात - — शेख इकबाल मिन्ने

जागतिकीकरणानंतरची कविता

१६. अर्थयुद्ध - — अरुण काळे

काव्यप्रकार (निवडक)

१७. प्रेम म्हणजे (बोलगाणी) - — मंगेश पाडगावकर

१८. एल्गार (गझल) - — सुरेश भट

१९. तीन हायकू (हायकू) - — प्रभाकर साळेगावकर

२०. पुण्यश्लोक अहिल्याबाई होळकर (गीत) - — शं. ल. नाईक

२१. झाडबाबा (बालकविता) - संजय वाघ

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

अभ्यासक्रम- व्दितीय भाषा - मराठी (Second Language)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सत्र - पहिले

सांकेतांक- MAR- S.L. - I अभ्यासपत्रिका -पहिली

'अक्षरलेणी'

(बी.ए.,बी.कॉम., बी.एससीं आणि इतर पदवी प्रथम वर्षासाठी)

उद्दिष्टे-

१. मध्ययुगीन व आधुनिक मराठी गद्य व पद्याचे कालविशिष्ट स्वरूप- विशेष समजून घेणे.

२. मराठी वाङ्मयनिर्मितीच्या प्रेरणांची उकल करणे.

३. मराठी साहित्याची आवड निर्माण करणे.

४. मराठी प्रमाणलेखनविषयक नियमाबद्दल जागृती घडविणे.

५. मराठी व्याकरणातील शब्दांच्या जातीचा परिचय करणे.

उपयोगिता

१. मध्ययुगीन व आधुनिक गद्य - पद्य वाङ्मयाचा परिचय.

२. मराठीतील वाङ्मयप्रकारांची ओळख.

३. मराठी साहित्यनिर्मिती आणि त्यांच्या प्रेरणांसंबंधी आकलन .

४. मराठी भाषेतील व्याकरणाचे उपयोजन

५. भाषाज्ञान.

अभ्यासघटक :

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'अक्षरलेणी' - (संपादक : डॉ पंढरीनाथ धोंडगे, डॉ . विठ्ठल जंबाले व डॉ कल्याण गोपनर) हे संपादित पुस्तक अभ्यासक्रमासाठी नेमले आहे.

गद्य विभाग

१. ससीक रक्षण -	म्हाइंभट
२. साहुकार म्हणजे राज्याची शोभा -	रामचंद्रपंत अमात्य
३. भावी जीवनाची उभारणी विद्यापीठात होते -	डॉ. बाबासाहेब आंबेडकर
४. क्रीडासंस्कृतीची गरज -	नरेंद्र दाभोळकर
५. पदरी पडलं पवित्र झालं -	हिम्मतराव बावसकर
६. आमची आईः साधनाताई-	मंदा आमटे
७. झाडं लावणारा माणूस -	मकरंद कुलकर्णी
८. द्योतक -	कृष्णा किंबहुने

पद्य विभाग

१. समयासी सादर व्हावे -	संत सावता माळी
२. बिकट वाट वहिवाट नसावी -	अनंत फंदी
३. आईची आठवण -	माधव जुलियन
४ माणसा इथे मी -	वामनदादा कर्डक
५. सूर्यनारायणा .... -	ना. धों. महानोर

६. उतराई- गोविंद काळे

७. ही पृथ्वी स्त्रीलिंगी आहे - पी. विठ्ठल

८. सूप आणि जाते - स्वाती शिंदे

उपयोजित मराठी

१. प्रमाण मराठी लेखनाचे अनुस्वारविषयक नियम

२. शब्दांच्या जाती

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

अभ्यासक्रम - व्दितीय भाषा - मराठी (Second Language)

शैक्षणिक वर्ष - २०१९-२०२० पासून

सत्र - दुसरे

संकेतांक- MAR- S.L. - II **अभ्यासपत्रिका - दुसरी**

(बी.ए.,बी.कॉम., बी.एससीं आणि इतर पदवी प्रथम वर्षासाठी)

'साहित्यशिल्प'

उद्दिष्टे :-

१. मराठी भाषा व साहित्य याविषयी अभिरुची निर्माण करणे.

२. विविध वाङ्मयप्रकारांची ओळख करुन देणे.

३. भाषा उपयोजनाचे स्वरुप समजून घेणे.

४. विविध जीवनमूल्ये व कलामूल्ये यांचा परिचय करुन देणे.

५. विद्यार्थ्यांचे व्यक्तिमत्व विकसित करणे.

उपयोगिता :-

१. मराठी भाषेच्या उपयोजनाशी परिचय होईल.

२. मराठी साहित्याची ओळख होईल.

३. गद्य आणि पद्य यातील विविध प्रकारांचा परिचय होईल.

४. मराठी भाषेच्या प्रमाणलेखनाची ओळख होईल.

५. जीवनमूल्ये व कलामूल्ये यांच्याशी परिचय होईल.

अभ्यासघटक -

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेडच्या मराठी अभ्यास मंडळाकडून 'साहित्यशिल्प' हे पाठयपुस्तक नेमण्यात आले आहे. डॉ. राजकुमार मस्के, डॉ. पृथ्वीराज तौर आणि डॉ. हंसराज भोसले यांनी हे पाठ्यपुस्तक संपादित केले आहे.

गद्य विभाग

१. झेल्या -	व्यंकटेश माडगूळकर
२. राग -	कैलाश सत्यार्थी (भाषांतर - संकल्प गुर्जर)
३. सये तुझे डोळे -	भारत सासणे
४. चांदणभूल -	विजयकुमार मिठे
५. गोरफडाची दाहकता -	नरेंद्र लांजेवार
६. मंगळ कुजबुजला -	रंजन गर्गे
७. आई तुझ्याशिवाय -	राम शेवडीकर
८. ईद -	मोहिब कादरी

पद्य विभाग

१. त्याचे काव्यलेखन -	केशवकुमार
२. लिलीची फुले -	पु. शि. रेगे
३. साठीची गझल -	विंदा करंदीकर
४. डॉ. बाबासाहेब आंबेडकर -	ज. वि. पवार
५. तिच्या मनात उतरणे -	सुमन केसरी (भाषांतर - स्वाती दामोदरे)
६. समता -	मिलींद बागूल
७. जीवनी -	प्रिया धारुरकर
८. वासनेची मगरमिठी -	विनायक येवले
९. तलब -	सुचिता खल्लाळ

व्याकरण विभाग

१. प्रमाण मराठी लेखनाचे नियम - -हस्व आणि दीर्घ

२. प्रयोगविचार

प्रश्नपत्रिकेचे प्रारूप : सर्व अभ्यासपत्रिकांसाठी

प्रत्येक अभ्यासपत्रिका एकूण ७५ गुणांसाठी असेल.

सत्रांत परीक्षा - ४० गुणांसाठी व अंतर्गत मूल्यमापनासाठी ३५ गुण आहेत.

प्रश्नपत्रिका प्रारूप :-	**एकूण**	**७५ गुण**

अंतर्गत मूल्यमापन (C. A.)	**३५ गुण**
घटक चाचणी -२ (प्रत्येकी १० गुण)	२० गुण
गृहकार्य / चर्चासत्र	१५ गुण

सत्रांत परीक्षा (E. S. E.)	**४० गुण**

सत्रांत परीक्षेचे स्वरूप खालीलप्रमाणे राहील.

प्र. १ ला पर्यायी दीर्घोत्तरी प्रश्न	१५ गुण
प्र. २ रा पर्यायी दीर्घोत्तरी प्रश्न	१५ गुण
प्र. ३ रा टीपा लिहा. (चारपैकी दोन)	१० गुण

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. -III Year- Marathi
02. B. A.- III Year- Hindi
03. B. A. - III Year- English
04. B. A. -III Year- Urdu
05. B. A. - III Year- Sanskrit
06. B. A. -III Year- Pali
07. B. A. - III Year- Kannada
08. B. A.- III Year- Economics
09. B. A.- III Year- Policital Science
10. B. A.- III Year- Sociology
11. B. A.- III Year- Philosophy
12. B. A.- III Year- Geography
13. B. A. -III Year – Psychology
14. B. A. - III **Year History**
15. B. A.-III Year- Public Administration
16. B. A.- III Year- Military Science
17. B. A.-III Year- Administrative Services

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/८७
दिनांक : २४.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS

GEOGRAPHY

B.A. THIRD YEAR

SEMESTER PATTERN
(Choice Based Credit System)

With Effect From: June, 2021

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Subject-Geography
B.A. Third Year (New Pattern)
***With effect from*: June, 2021**

Semester	Core Course	Paper No.	Name of the Paper	Lectures/ Week	Total No. of Lect.	CA	ESE	Total Marks	Credits
V	DSE GEOG	XIII	Evolution of Geographical Thought **OR** Social and Cultural Geography	04	60	10	40	50	02
	GE GEOG	XIV	Geography of India	04	60	10	40	50	02
V&VI	DSE GEOG	XV & XVIII	Practical Geography XV-Projections and Statistical Methods XVIII-Surveying, Use of Computer and Village Survey	3+3 (Per Batch)	90 (45+45)	10	40	50	02
V	SEC-III	--	An Introduction to Research Methodology **OR** Watershed Management	03	45	25	25	50	02
Semester - V Total				**17**	**255**	**55**	**145**	**200**	**08**
VI	DSE GEOG	XVI	Environmental Geography **OR** Health Geography	04	60	10	40	50	02
	GE GEOG	XVII	Geography of Maharashtra	04	60	10	40	50	02
V&VI	DSE GEOG	XV & XVIII	Practical Geography XV-Projections and Statistical Methods XVIII-Surveying, Use of Computer and Village Survey	3+3 (Per Batch)	90 (45+45)	10	40	50	02
VI	SEC-IV	--	Disaster Management **OR** Interpretation of Aerial Photography and Satellite Imagery	03	45	25	25	50	02
Semester – VI Total				**17**	**255**	**55**	**145**	**200**	**08**

(CC= Core Course, CA= Continuous Assessment (Internal), ESE= End Semester Examination).

Note:

1. *Total working days in a semester are 90*
2. *Total working weeks in a semester are 15*
3. *Continues Assessment for each paper = 10 Marks*
4. *End Semester Examination for each paper = 40 Marks*

INSTRUCTIONS:

1. Teaching workload shall be of four periods per week for each theory paper.
2. Teaching workload shall be of six periods (03+03) per week for practical paper.
3. Total periods for each theory paper of 50 marks shall be 60 per semester.
4. Total periods for each practical paper of 50 marks shall be 90 per year per batch.
5. Strength of students for each practical batch shall not be more than 15 (fifteen).
6. Students shall not be allowed for practical examination without certified journal (Practical Book).
7. Practical examination will be held at the end of the academic year (May be in February/March for both paper i.e. paper no. XV and XVIII).
8. CA (Continuous Assessment) Pattern for each paper (including practical paper) - one test and one home assignment of 5 marks each.
9. CA for SEC One Seminar of 15 marks and two Tests of 5 marks each

Question Paper Model and Scheme of Marking
BATY Geography
End Semester Examination **(ESE)**
Theory
Semester (V & VI) Paper (XIII, XIV & XVI, XVII)
(w. e. f. June 2021)

Marks: 40

Q.1 Descriptive Question 15Marks
Or
Descriptive Question

Q.2 Descriptive Question 15Marks
Or
Descriptive Question

Q.3 Write short note on any two of the following 10Marks
i. Short note
ii. Short note
iii. Short note
iv. Short note

Question Paper Model and Scheme of Marking
BATY Geography
End Semester Examination **(ESE)**
Skill Enhancement Course **(SEC)**
(Sem. V&VI) Paper SEC (III&VI)
(w. e. f. June 2021)

Marks: 25

Q.1 Skill Work Report (Project) 10 Marks

Q.2 Overall Skill Judgment (Written Exam) 10Marks

Q.3 Skill Work Presentation (Viva-Voce) 05 Marks

Question Paper Model and Scheme of Marking
BATY Geography
End Semester Examination **(ESE)**
Practical
Semester (V) Paper (XV)
(w. e. f. June 2021)

Marks: 40

Q.1	A) Properties and Uses of Projection (Any One)	04 Marks
	B) Construction of Projection (Any One)	08Marks
	C) Construction of Projection (Any One)	08 Marks
Q.2	A) Measurement of Central Tendencies (Any One)	04Marks
	B) Measurement of Deviation (Any One)	06Marks
Q.3	Journal and Viva Voce	10Marks

Question Paper Model and Scheme of Marking
BATY Geography
End Semester Examination **(ESE)**
Practical
Semester (VI) Paper (XVIII)
(w. e. f. June 2021)

Marks: 40

Q.	A) Surveying- Chain and Compass/ Plane Table/ Prismatic Compass (Any One)	10 Marks
	B) Correction of Bearing Using Bowditch's Method	06 Marks
	C) Conversion of Bearings	02 Marks
Q.2	A) Use of Computer, RS and GIS in the study of Geography	02Marks
Q.3	A) Viva-Voce on Excursion/Village Survey	10Marks
Q.4	Journal and Viva Voce	10Marks

B. A. Third Year
Semester-V
DSE GEOG-XIII
Evolution of Geographical Thoughts

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with development of geographical thoughts from ancient to modern times. To know the development of various branches of human and physical geography

Utility

1. To help students to know the evolution of geographical knowledge which helps them in analyzing, planning and prediction of various geographical aspects

Learning Objectives

1. To develop the skills among the students to imbibe the classical knowledge and its applicability in the present world
2. To know the contribution of geographers across the globe to the development of geography

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit I Contribution of Ancient and Medieval Geographers **15 periods**

1) Greek: Eratosthenes and Aristotle
2) Roman: Strabo and Ptolemy
3) Arab: Al Biruni and Al Idrisi
4) India: Aryabhatta and Bhaskaracharya

Unit II Contribution of Modern Geographers **15 periods**

1) German: Alexander von Humboldt
2) French: Vidal De La Blache
3) British: Halford John Mackinder
4) American: Richard Hartshorne

Unit III Concepts in Geography **10 periods**

1) Region: Definition characteristics and classification

Unit IV Models in Geography **10 periods**

1) Models: Definition, Features, Needs and Significance

Unit V Approaches in Geography **10 Periods**

1) Systematic Approach
2) Quantitative Approach

Suggested Reading:

1) Adhikari Sudeepta : Fundamentals of Geographic Thought- Chaitanya Publishing House, Allahabad (1972)
2) Hussain, Majid Development of Geographical Thought, Rawat Publication
3) Dickinson, R.E. : The Makers of Modern Geography Routledge & Keganpaul, London (1969)
4) Dixit R.D. (1999) : Development of Geographic Thought Longmans India Limited. 1999.
5) Free Man. T.W. : Geography as Social Science, Harper International Edition, Harper & Row Publishers, New York (1965).
6) Lawarence, G.R.P. : Cartographic Methods, Methuen London,1968.
7) Monkhouse, F.H. & Winkinson, H.r. : Maps and diagrams Methuen London,1994.
8) Rabinson, A.H. : Elements of Cartography-John Wiley and Sons U.S.A. 1995.
9) Archer, J.E. & Daltan, T.H. : The Fieldwork in Geography Batsford Limited London, 1968.
10) Steers, J.A. : Maps Projections, University of London Press, London.
11) Mali, N.G., Ashture,S.B. Bhure R. S : Conceptional Development of Geographical Thought. Aruna Prakashan, Latur

B. A. Third Year
Semester-V
DSE GEOG-XIII
Social and Cultural Geography (Or Paper)

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with the fundamentals of social and cultural geography.

Utility

1. To help students to know the social and cultural fabrics.
2. To work for social justice and fair society.

Learning Objectives

1. To provide in depth knowledge about social and cultural geography.
2. To prepare students for various competitive examinations.
3. To create scientific attitude in students regarding socio-cultural factors.

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT, Field Visit.

Unit I: Introduction **12 Periods**

1) Definition, nature, and scope of social and cultural geography.
2) Significance of Social and Cultural Geography.

Unit II: Social Aspects **12 Periods**

1) Social differentiation and region formation
2) Role of ethnicity, caste, tribe, language and religion in social diversity in India.

Unit III: Cultural Aspects **12 Periods**

1) Concept of culture and culture regions.
2) Cultural hearths and cultural diffusion.

Unit IV: Concept and Theory of Race **12Periods**

1) Concept of race and Griffith Taylor's Theory of Race
2) Races of India.

Unit V: Indicators of Social Development **12 Periods**

1) Concept of social justice, equality and welfare and fair society.
2) Social development and indicators of well being in India.

Suggested Reading:

1. Ahmad, Aijazuddin (1999): Social Geography, Rawat Publications, Jaipur.

2. Blij, H.J. (1995): The earth-An introduction to its Physical and Human Geography, John Wiley & Sons,inc; New York.

3. Broad, Jan O.M.& webb,John W(1973): A Geography of mankind, McGraw Hill Book Co. New York.

4. Cater, Hohn & Jones, Trevor (1989): Social Geography-An Introduction to Contemporary Issues, Arnold Publishers, New Delhi.

5. Crang, Milke : Cultural Geography, Roultedge publication, London,1998.

6. Dubey S.C. : Indian Society, National Book Trust, New Delhi, 1991.

5. Jackson, Peter (1989): Maps of meaning- An Introduction to cultural Geography, Unwin Hyman, and London.

7. Jackson, Richard H. & Loyd E.Hudman (1990): Cultural Geography-People, Places and Environment West publishing co., New York.

8. Jones, Emrys & Eyles, John (1977): An Introduction to social Geography, Oxford University Press, Oxford.

9. Jorden, Terry G. & Rowntree, Lester (1976): The Human Mosaic-A Thematic Introduction to Cultural Geography, Canfield press, sen Francis Co., Harper & Row Publisher, New York.

10. Smith, David M. (1977): Human Geography- A Welfare approach, Arnold-Hinmann, London.

11. Hussain, Majid (1994): Human Geography, Rawat Publications, Jaipur.

12. Soffer, David E. (ed.) (1980): An Exploration of India: Geographical Perspectives on Society and Culture, Cornell Uni. Press, New York.

B. A. Third Year
Semester-V
GE GEOG-XIV
Geography of India

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with location and physical settings of India and to understand the significance of unity in the diversity
2. To acquaint the students with regional knowledge of India

Utility

1. To appreciate the regional diversity and to develop acclimatizing temperament among the students

Learning Objectives

1. To know the physical regions, climatic regions and natural resources of India
2. To bring awareness among the students for judicious and optimum use of natural resources and adherence to sustainable development

Pre-requisites

1. Books, Maps, Charts, Models
2. Field visits
3. ICT

Unit I Location, Physical Regions and Drainage **15 Periods**

1. Location of India. India in the context of South and South East Asia
2. Physical regions and Drainage systems of India

Unit II Climate **10 Periods**

1. Regional and seasonal variations of climate
2. The monsoon, western disturbance and nor-westers

Unit III Natural Resources **15 Periods**

1. Soil and Forests: types, characteristics and distribution
2. Minerals resource-iron and aluminum
3. Power resources-coal and petroleum their use and need for conservation.

Unit IV Agriculture **10 Periods**

1. Green revolution and regional disparity in agricultural growth
2. Impact of globalization on Indian agriculture

Unit-V Contemporary Issues **10 Periods**

1. Poverty and food security
2. Gender discrimination and women empowerment

Suggested Readings:

1. Deshpande, C.D. : India : A Regional Interpretation, Northern Book Center, New Delhi 1992.
2. Farmer, B.H. : An introduction to South Asia Methuen, London, 1983.
3. Govt. of India : India-References Annual 2001, Pub.Div., New Delhi, 2001.
4. Govt. of India : National Atlas of India NATMO Publications, Kolkata.
5. Govt. of India : The Gazetteer of India, Vol.1 & 3 Publication Division, New Delhi, 1965.
6. Learmonth, A.T.A. : Man and Land of South Asia, Concept, New Delhi.
7. Mitra, A. : Levels of Regional Development in India- Census of India-Vol.2 (A) (1) & (2) New Delhi,1987.
8. Routray, J.K. : Geography of Regional Disparity, Asian Institute of Technology, Bangkok, 1993.
9. Shafi, M. : Geography of South Asia- Mc Millan & Co. Calcutta, 2000.
10. Singh R.L. : Indian : A Regional Geography : National Geographical Society India, Varanasi, 1971.
11. Spate, OHK & Learmonth A.T.A. : India & Pakistan – Land People & Economy-Methuen & Co.London, 1967
12. Wadia, D.N. : Geography of India- McMillan & Co.London.
13. Sharma T.C. : Economic & Commercial Geography of India – Vikas Publication House, New Delhi
14. Hussain, Majid : Geography of India, McGraw Hill Education (India) Chennai Pvt.Ltd. 2018
15. Swaminathan, M. S. : 50 years of Green Revolution: An Anthology of Research papers , World Scientific Publishing Co. Pvt. Ltd. 2017
16. Bhatt, M. S. : Poverty and Food Security in India: Problems and Policies, Aakar Press, Delhi, 2004
17. डॉ एस टी शेटे, डॉ. के. बी. कनकुरे : भारताचा भूगोल, अभिजित प्रकशन, लातूर आणि इतर :
18. केचे पंडुरंग :भारताचा चा भूगोल, कैलास प्रकाशन, औरंगाबाद
19. Surekha Pandit and Bapat: भारताचा चा भूगोल

B. A. Third Year
Semester-V & VI
DSE GEOG-XV & XVIII
Practical Geography

Marks: 50 **Credits: 02** **Periods: 90**

Salient Features

1. The aim of this course is to introduce the students with knowledge of making of Projections
1. To know the characteristics and uses of different projections

Utility

1. To know the use of particular projection for making particular map

Learning Objectives

1. To know the skills of construction of projection and map making
2. To use different projections for the representation of different parts of the globe

Pre-requisites

1. Books, Maps, Globe
2. Geometry box, ICT

Paper XV- Projections and Statistical Methods **45 Periods**

Unit I Introduction

1. Definition, Classification and construction (By Graphical method only) of Projection
2. Properties and uses of Projections.

Unit II Zenithal Projections

1. Zenithal Polar Gnomonic Projection
2. Zenithal Polar Equal area Projection

Unit III Conical Projection

1. Conical Projection with one Standard Parallel.
2. Bonne's Projection

Paper XVIII – Surveying, Use of Computer and Village Survey **45 Periods**

Unit I Introduction

1. Nature and Scope of Surveying
2. Chain-tape Survey-open and close traverse.

Unit II Plane Table Survey

1. Plane table survey-intersection method-open and close traverse.

Unit III Prismatic Compass Survey

1. Prismatic compass survey-open and close traverse.

Unit IV Correction and Conversion of Bearing

1. Bowditch's method with correction of bearing.
2. Conversion of bearing. Whole circle bearing to Quadrant bearing & Vice-versa.

Suggested Reading:

1) Sing and Singh : Mapwork and Practical Geography
2) Singh L. & Dutta P.K. : Elements of Practical Geography- Kalyani Publishers, New Delhi 1979.
3) Hammod & Mc Gullah : Quantitative Techniques in Geography
4) Croxton & Cowden : Applied General Statistics
5) Sarkar, A. : Practical Geography – A Systematic Approach – Orient Longman Calcutta, 1997.
6) Khan Z.A. : Text Book of Practical Geography
7) Lawarence, G.R.P. : Cartographic Methods, Methuen London,1968.
8) Monkhouse, F.H. & Winkinson, H.r. : Maps and diagrams Methuen London,1994.
9) Rabinson, A.H. :Elements of Cartography-John Wiley and Sons U.S.A. 1995.
10) Archer, J.E. & Daltan, T.H. :The Fieldwork in Geography Batsford Limited London, 1968.
11) Steers, J.A. :Maps Projections, University of London Press, London.
12) Kankure K.B. Manakari M.P. Mugave R.M. : Practical Geography, Aruna Publication, Latur, 2014

B. A. Third Year
Semester-V
SEC-III
An Introduction to Research Methodology

Marks: 50 **Credits: 02** **Periods: 45**

Salient Features

1. The aim of this course is to introduce the students with basic nature of research methodology
2. To develop skills of research report writing

Utility

1. To enable students with the basic idea of data collection, analysis and interpretation skills

Learning Objectives

1. To develop the temperament among the students to study the subjects in a systematic and scientific way

Pre-requisites

1. Books, Maps, Charts
2. Field survey and ICT

Unit-I Introduction **15 Periods**

1. Definition, Nature, Scope and Significance of Research and Types of Research
2. Geographical Enquiry

Unit-II Data Collection **15 Periods**

1. Importance of data in research. Types and Sources of Data
2. Methods of Collection of Data: Primary and Secondary
3. Data Analysis and Data Representation Techniques: Statistical and Cartographic Techniques

Unit- III Structure and Preparation of Research Report **15 Periods**

1. Selection of Topic, Statement of Problem, Review of Literature, Objectives, Methodology,
2. Data Collection and Analysis, Conclusion and Suggestions
3. Reference, Bibliography, Annexure

Suggested Reading:

1. Ghosh B. N. "Scientific Method and Social Research", Sterling Publishers Pvt. Ltd. 1987
2. Kothari, R C., "Research Methodology, Methods and Techniques", New Delhi: New Age International Publishers,2012
3. William J. Goode and Paul K. Hatt., "Methods in Social Research" McGrawHill Book Company, 1981
4. डॉ. प्रदीप आगलावे, संशोधन पद्धतीशास्त्र व तंत्रे
5. डॉ नीलम धुरी, संशोधन पद्धती, फडके प्रकाशन, कोल्हापूर 2008
6. सदा कऱ्हाडे, संशोधन सिद्धांत आणि पद्धती

B. A. Third Year
Semester-V
SEC-III
Watershed Management (Or Paper)

Marks: 50 **Credits: 02** **Periods: 45**

Salient features

1. Watershed management is need of the time. It is useful to conserve soil moisture, to recharge the aquifers, to control soil erosion, it acts as a drainage channel during heavy rains and allows percolation

Utility

1. It will help to increase agriculture land and agriculture produce, to conserve the wild life, grassland, forestry, to maintain environmental balance and to eradicate draught prone areas

Objectives

1. To manage and utilize the runoff water, to protect, conserve and improve the land of watershed, to moderate the floods peaks at down stream area, to rehabilitate the water supply schemes in rural areas and to create water balance sheet for rural area

Pre-requisites

1. Books
2. Maps, Models,
3. Field Visit and ICT

Unit I Introduction and Concept of Watershed Management **10 Periods**

1. Definition, aims and objectives of watershed management
2. Need for watershed management.
3. Principles of watershed management.
4. Types and properties of watershed
5. Factors affecting on watershed management

Unit II Soil Erosion and Control Measures **10 Periods**

1. Types and Factors affecting on soil erosion
2. Measures to control erosion
   a) Agronomical control erosion
   b) Engineering control erosion

Unit III Techniques in Watershed Management **10 Periods**

1. Grassland development
2. Gully plugs
3. Tree plantation
4. Contour bunding
5. Land leveling
6. Water conservation structures
7. Jalyukt shivar

Unit IV Water Harvesting, Water budgeting, Model Village and Schemes 15 Periods

1. Importance, significance and methods of Rainwater Harvesting
2. Importance, significance and methods of Ground water harvesting
3. Model Village
4. Water budgeting and funding
5. Schemes of central and state Government for watershed management
6. Visit- To watershed projects Rain water harvesting projects, Jalyukta shivar

Suggested Reading:

1. Allam, Gamal Ibrahim Y., Decision Support System for Integrated Watershed Management, Colorado State university, 1994.
2. American Society. Of Civil Engr., Watershed Management, American Soc. Of Civil Engineers, New York, 1975.
3. Black Peter E., Watershed Hydrology. Prentice Hall, London, 1991.
4. Michael A.M. Irrigation Engineering, Vikas Publishing House,1992.
5. Murty, J.V.S. "Watershed Management", New Age Intl., New Delhi 1998.
6. Murthy, J.V.S., Watershed Management in India, Wiley Eastern, New Delhi,1994.
7. Purandare, A.P., Jaiswal A.K., Watershed Development in India, NIRD, Hyderabad,1995.
8. Vir Singh, Raj, Watershed Planning and Management, Yash Publishing House, Bikaner,2000.
9. ¨É½þÉ®úÉ¹]ÅõÉiÉÒ±É VÉ±ÉºÉÆ{ÉnùÉ- |ÉÉ. b÷Éì. BºÉ.'½þÒ. fø¨ÉfÄø®äú-b÷ÉªÉ¨ÉÆb÷ {ÉÎ¤±ÉEäò¶ÉxÉ,{ÉÚhÉä.
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B. A. Third Year
Semester-VI
DSE GEOG-XVI
Environmental Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with the fundamentals of Environment.

Utility

1. To help students to know the significance of study of environment.

Learning Objectives

1. To provide in depth knowledge about environment.
2. To prepare students for various competitive examinations.
3. To nurture scientific and research approach among the students.

Pre-requisites

1. Books, Maps, Globe, Models.
2. ICT, Field Visit.

Unit I Introduction **10 Periods**

1) Definition, nature and scope of environmental geography
2) Importance of study of environmental geography

Unit II Ecosystem and Biodiversity **12 Periods**

1) Ecosystem- Definition, types and functions
2) Biodiversity- Concept, types and conservation

Unit III Natural Resources **10 Periods**

1) Renewable and non-renewable natural resources
2) Conservation of natural resources and sustainable development

Unit IV Environmental Pollution **14 Periods**

1) Air pollution- causes ,effects and consequences
2) Water pollution- causes, effects and consequences
3) Noise pollution- causes, effects and consequences

Unit V Environmental Issues **14 Periods**

1) Drought – causes, effects and remedies
2) Global Warming and Ozone depletion Causes and effects and remedies

Suggested Reading:

1 Introduction to Environment – M. N. Sastri, Himalaya Publishing House, New Delhi.
2 Environmental Studies – H. Kaur, Pragati Prakashan, Meerut
3 Environmental Studies – Erach Bharucha, University press Pvt. Ltd., Hyderabad
4 Environmental Studies – S. V. S. Rana, Rastogi Publication, Meerut
5 Environmental Studies – C. P. Kaushik, New age international Ltd. New Delhi
6 Environmental Studies – Arumugam, Saras Publication Kanyakum
7 Paryavaran Bhugol- Dr.Phule S.J Vidyabharati Prakashan
8 पर्यावरण विज्ञान प्रा.बा.र.अहिरराव निराली प्रकाशन, पुणे
9 पर्यावरण परिचय डॉ.जयकुमार मगर विद्या प्रकाशन, नागपुर
10 नैसर्गिक आपत्ती आणि व्यवस्थापन डॉ.आर.जी.पाटीलओम साई एंटरप्राइजेस पुणे.

B. A. Third Year
Semester-VI
DSE GEOG-XVI
Health Geography (Or Paper)

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with knowledge of health geography, recent development and its significance in present scenario

Utility

1. To enable students to study, understand the prevalence of major diseases in India

Learning Objectives

1. To make students acquaint with the concepts like health, disease, preventive and curative medicine
2. To know the factors affecting on health and health policies and programmes in India

Pre-requisites

1. Books, Maps, Globe,
2. ICT

Unit I: Introduction **12 Periods**

1. Definition, nature and scope of Health Geography.
2. Development of Health Geography.
3. Significance of study of Health Geography, and challenges of Health Geography

Unit II: Factors Affecting on Human Health and Diseases **14 Periods**

1. Physical factors –Relief, Climate, Soil and Vegetation.
2. Social and economical factors – Population Density, Literacy, Social customs, Poverty, food and nutrition , standard of living.
3. Environmental factors – Urbanization, Congestion, Pollution and Solid waste.

Unit III: Classification of Diseases **10 Periods**

1. Genetic, Communicable , and Non- Communicable diseases
2. Occupational and Deficiency Diseases

Unit IV: Major Diseases **14 Periods**

1. Causes, Ecology, Etiology and Transmission
2. Vector Borne- Malaria, Dengue
3. Viral Diseases- HIV, Covid-19,
4. Bacterial diseases- Tuberculosis, Leprosy

Unit-V Health care Planning in India **10 Periods**

1. Health care planning and policies in India.

Suggested Reading:

1) Majid Husain: Medical Geography, Anmol Publication, New Delhi.

2) R. C. Agnihotri : Geo-Medical Environment and Health Care , Rawat Publication ,Jaipur.

3) Michael Emch, Elisabeth Dowling Root, Margaret Carrel: Health and Medical Geography, Guilford press, Newyork

4) जी. सी. सिंघई, चिकित्सा भूगोल, वसुंधरा प्रकाशन, गोरखपुर.

5) आर.पी. मिश्रा,वैद्यकीय भूगोल, नॅशनल बुक, नई दिल्ली.

6) दीक्षित जगन्नाथ, सामाजिक आरोग्य परिचर्या, सूर्य ऑफसेट, नागपूर.

7) बापट रवी, स्वास्थ्यवेध आरोग्य विषयक समज-गैरसमज, सुमंगल प्रेस अंधेरी, मुंबई.

8) https://www.ij-healthgeographics.bionedcentral.com

9) https://www.esri.com

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11)https://www.aag.org

12) https://www.en.m.wikipedia.org

13) https://www.mohfw.in

14) https://www.arogya.maharashtra.gov.in

15) https://www.endmalaria.org

16) https://www.researchgate.net

17) https://www.depts.ttu.edu

18) https://www.nhp.gov.in

19) https://www.nhm.gov.in

B. A. Third Year
Semester-VI
GE GEOG-XVIII
Geography of Maharashtra

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with location and physical setting of Maharashtra.
2. To acquaint the students with regional knowledge of Maharashtra.

Utility

1. To appreciate the regional diversity and to develop acclimatizing temperament among the students.

Objectives

1. To aware the students about agricultural and demographic problem and make them able to find remedial measures on these problems.
2. To aware the students with available natural resources and need of conservation and protection.
3. To prepare the students for understanding the region as a dynamic entity.

Pre – requisites

1. Books Maps, Charts, Models.
2. Field visits
3. ICT

Unit-I Location, Physical Regions and Drainage **12Periods**

1. Location and Physical regions of Maharashtra
2. Drainage systems of Maharashtra.

Unit-II Climate and Soil **12Periods**

1. Climate and climatic Regions of Maharashtra.
2. Soil types and their characteristics and distribution in Maharashtra.

Unit- III Forest, Mineral and Power Resource **12Periods**

1. Forest types and their distribution in Maharashtra.
2. Minerals- Manganese
3. Power Resources- Coal

Unit- IV Agriculture, Irrigation and Industries **12Periods**

1. Major Crops – Jowar and Cotton
2. Major sources of Irrigation
3. Major Industries -Cotton textile and Sugar

Unit-V Population Growth and Distribution **12sPeriods**

1. Factors Affecting on Growth of population.
2. Growth and distribution of population

Suggested Reading

1) Arunachalam B.- Maharashtra – Bombay 1967.
2) Deshpande C.D. – Geography of Maharashtra – National Book Trust- India 1971.
3) Das P.K. - The Monsoons – National Book Trust India 1968.
4) Govt.of India Census of India, Gazetteers of India.
5) Govt. of Maharashtra – District Gazetteers – Economics Review.
6) Spate O H K & Learmonth ATA – India and Pakistan, Methuen London 1969.
7) Sing R.L. India- A Regional Geography, national Geography society India. Varanasi 1971.
8) Wadia D.N. Geology fo India – Macmillan 1957.
9) Dr. Keche P.J. Maharashtracha bhugol (Marathi)
10) ‹.²Öß. ÃÖ¾Ö¤üß - ¤ü ´Öê ÖÖ Ã™êü™ü , ´ÖÆüÖ¸üÖÂ™üÒ.
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B. A. Third Year
Semester-VI &V
DSE GEOG-XV & XVIII
Practical Geography

Marks: 50 **Credits: 02** **Periods: 90**

Salient Features

1. To acquaint students with different methods of surveying and their use measurement and planning of landuse
2. To promote the use of computer and GIS skills in the study geography among the students for surveying and planning

Utility

1. The course will help the students to develop surveying skills, and their application in land measurement and planning

Learning Objectives

1. To make students acquaint with the basic concepts of different survey methods and their use in the field
2. To develop the skills of village survey and report writing

Pre-requisites

1. Books, Maps, Globe,
2. ICT
3. Field visit and survey

Paper XV – Projections and Statistical Methods **45 Periods**

Unit IV Cylindrical Projection

1. Cylindrical Equal area Projection
2. Mercator's Projection

Unit- V Measurement of Central Tendencies

1. Mean in Simple, Discrete and Continuous series
2. Median in Simple, Discrete and Continuous series
3. Mode in Simple, Discrete and Continuous series

Unit-VI Measurement of Deviations

1. Mean deviation in Simple, Discrete and Continuous series
2. Quartile deviation in Simple, Discrete and Continuous series
3. Standard deviation in Simple, Discrete and Continuous series

Paper XVIII – Surveying, Use of Computer and Village Survey **45 Periods**

Unit-V Application of Computer in Geography

Unit-VI Glimpse of Remote Sensing and GIS and its uses in geography

Unit VII Excursion or village survey report or part of city or Town survey report

Suggested Reading:

1) Sing and Singh : Mapwork and Practical Geography
2) Singh L. & Dutta P.K.: Elements of Practical Geography-Kalyani Publishers, New Delhi 1979.
3) Hammod & Mc Gullah: Quantitative Techniques in Geography
4) Croxton & Cowden : Applied General Statistics
5) Sarkar, A. : Practical Geography-A Systematic Approach Orient Longman Calcutta, 1997.
7) Khan Z.A. :Text Book of Practical Geography
8) Lawarence, G.R.P. : Cartographic Methods, Methuen London,1968.
9) Monkhouse, F.H. & Winkinson, H.R. : Maps and diagrams Methuen London,1994.
10) Rabinson, A.H. :Elements of Cartography-John Wiley and Sons U.S.A. 1995.
11) Archer, J.E. & Daltan, T.H. :The Fieldwork in Geography Bats ford Limited London, 1968.
12) Steers, J.A. :Maps Projections, University of London Press, London.
13) Kankure K.B. Manakari M.P. Mugave R.M. : Practical Geography, Aruna Publication, Latur

B. A. Third Year
Semester-VI
SEC-IV
Disaster Management

Marks: 50 **Credits: 02** **Periods: 45**

Salient Features

1. The aim of this course is to introduce the students with few basics of Aerial Photography and Remote Sensing
2. To develop skills of interpretation of aerial photographs and satellite imageries

Utility

1. To makse use of interpretation skills of aerial photographs and satellite imageries in understanding and analyzing the physical and human world

Learning Objectives

1. To keep students abreast with recent developments in geoinformatics
2. To help students to make use of interpretation skills in decision making and planning for the benefit of society

Pre-requisites

1. Aerial Photographs and Satellite Imageries
2 Pocket and /or Prism stereoscope
4. Field visit and ICT

Unit I Introduction **10 Periods**

1. Meaning, nature, scope and types of disaster
2. Disaster Management Act-2005, Government of India.
3. Yokohama strategy -1994
4. Functions of centre, state and District disaster management departments

Unit II Disaster Management **08 Periods**

1. Disaster management plan
   a. Pre-Disaster management
   b. During disaster management
   c. Post disaster management
2. Application of Remote sensing and GIS for disaster management

Unit III Role of Agencies in Disaster Management **10 Periods**

The role of various departments in disaster management-ISRO, Police, Revenue, Fire, PWD, Irrigation, School & Colleges, Health, Z.P., Municipal council, Corporation and Village.

Unit IV Training Centers for Disaster Management **09 Periods**

Disaster management and training centers: Government Private, N.C.C., N.S.S., NGOs, Police, N.D.R.F., and Paramilitary force, Defense wings (Air force, Army and Navy)

Unit V Role of Media in Disaster Management **08 Periods**

The role of Media in disaster management: Social Media, Print Media, Electronic Media, All India Radio and Government GR

Suggested Reading:

1. P. P. Marathe: Practical Disaster Management, Diamond Publication, Pune
2. Dr. Akhilesh K. Pande: Disaster Management, Damini Garg for Murari Lal & Sons,New Delhi.
3. Anu Kapur : Disaster in India: Studies of Grim Reality, Rawat Publication,Jaipur.
4. R. B. Singh: Natural Hazards and Disaster Management (Vulnerability and Mitigation), Rawat Publication, Jaipur.
5. K. C. Samal, S. Meher,N. Panigrahi and S. Mohanty: State ,NGOs and Disaster Management, Rawat Publication, Jaipur.
6. Paranjape H. K: The Bhopal's Gas Disaster: A Chronology of Principal Events in the Bhopal Gas Disaster Litigation, Janta.
(Marathi references 10th)

Websites

https://www.ndma.gov.in
https://www.nidm.gov.in
http://www.en.m.wikipedia.org
http://www.ndmindia.nic.in
http://www.aidmi.org
http://www,nhp.gov.in
https://www.maharashtra.gov.in

B. A. Third Year
Semester-VI
SEC-IV
Interpretation of Aerial Photographs and Satellite Imagery (Or Paper)

Marks: 50 **Credits: 02** **Periods: 45**

Silent Features

1 .The aim of this course is to introduce the students with few basics of Aerial Photography and Remote Sensing
2. To develop skills of interpretation of aerial photographs and satellite imageries

Utility

1. To make use of interpretation skills of aerial photographs and satellite imageries in understanding and analyzing the physical and human world

Learning Objectives

1. To keep students abreast with recent developments in geoinformatics
2. To help students to make use of interpretation skills in decision making and planning for the benefit of society

Pre-requisites

1. Aerial Photographs and Satellite Imageries
2. Pocket and /or Prism stereoscope
3. Geometry box

Unit-I Introduction **15 Periods**

1. Definition and Development of Remote Sensing
2. Meaning of Platform and Their Types
3. Electromagnetic Spectrum
4. Sensors

Unit-II Aerial Photographs and Satellite Imageries **15 Periods**

1. Concept of Aerial Photographs and Satellite Imageries
2. Scale of Aerial Photograph and Satellite Imagery
3. Types of Aerial Photographs
4. Types of Satellite Imageries

Unit- III Interpretation of Aerial Photographs and Satellite Imageries **15 Periods**

1. Basic Principles of Interpretation
2. Elements of Interpretation

Suggested Reading:

1. George Joseph,(2005): Fundamentals of Remote Sensing, University Press Pvt. Ltd. Hyderabad
2. Lillesand , T.M. and Kiefer, R.W. (1994): Remote Sensing and Image Interpretation, Wiley Publication, New York
3. M. Anji Reddy,(2001): Text book of Remote Sensing and Geographical Information System, B.S. Publication, Hyderabad
4. पेशवा वि. वि. (१९९०) : दूरसंवेदन, मराठी विज्ञान परिषद प्रकाशन, पुणे
5. डॉ. श्रीकांत कार्लेकर (२००६): दूरसंवेदन, डायमंड पुब्लिकेशन, पुणे

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
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25 1994 - 2019 SILVER JUBILEE YEAR
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Fax : (02462) 229574
Website: www.srtmun.ac.in
E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३० एप्रिल २०१९ रोजी संपन्न झालेल्या ४३व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.५/४३–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

१) बी.ए.–प्रथम वर्ष–इंग्रजी (अनिवार्य, अतिरिक्त (द्वितीय भाषा), फंक्शनल इंग्रजी, ऐच्छिक)
२) बी.ए.–प्रथम वर्ष–हिंदी (द्वितीय भाषा, ऐच्छिक)
३) बी.ए.–प्रथम वर्ष–मराठी (द्वितीय भाषा, ऐच्छिक)
४) बी.ए.–प्रथम वर्ष–पाली (द्वितीय भाषा, ऐच्छिक)
५) बी.ए.–प्रथम वर्ष–संस्कृत (द्वितीय भाषा, ऐच्छिक)
६) बी.ए.–प्रथम वर्ष–उर्दू (द्वितीय भाषा, ऐच्छिक)
७) बी.ए.–प्रथम वर्ष–अर्थशास्त्र
८) बी.ए.–प्रथम वर्ष–भूगोल
९) बी.ए.–प्रथम वर्ष–इतिहास
१०) बी.ए.–प्रथम वर्ष–सैनिकशास्त्र
११) बी.ए.–प्रथम वर्ष–तत्त्वज्ञान
१२) बी.ए.–प्रथम वर्ष–राज्यशास्त्र
१३) बी.ए.–प्रथम वर्ष–मानसशास्त्र
१४) बी.ए.–प्रथम वर्ष–लोकप्रशासन
१५) बी.ए.–प्रथम वर्ष–समाजशास्त्र
१६) बी.ए.–प्रथम वर्ष–ॲडमिनिस्ट्रेटीव्ह सर्व्हिस

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/**६६**
दिनांक : १७.०६.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS

GEOGRAPHY

B.A. FIRST YEAR

SEMESTER PATTERN
(Choice Based Credit System)

With Effect From: June, 2019

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS) Course Structure

Subject-Geography

B.A. First Year (New Pattern)

***with effect from*: June, 2019**

Semester	Core Course	Paper No.	Name of the Paper	Lectures/ Week	Total No. of Lect. Per Sem.	CA	ESE	Total Marks	Credits
I	CCGEOG- I	I	An Introduction to Physical Geography	04	60	10	40	50	02
	CCGEOG- II	II	An Introduction to Human Geography	04	60	10	40	50	02
	CCGEOG- III	III	Practical Geography	03	60	10	40	50	02
Semester - I Total				**11**	**180**	**30**	**120**	**150**	**06**
II	CCGEOG- IV	IV	Geomorphology	04	60	10	40	50	02
	CCGEOG- V	V	Population Geography	04	60	10	40	50	02
	CCGEOG- VI	VI	Practical Geography	03	60	10	40	50	02
Semester - II Total				**11**	**180**	**30**	**120**	**150**	**06**

(CC= Core Course, CA= Continuous Assessment (Internal), ESE= End Semester Examination).

1. Teaching work load shall be four periods per week for each theory paper and three periods per batch per week for practical.
2. Strength of students for each practical batch shall not be more than 20 (twenty).
3. Students shall not be allowed for Practical Examination without certified journal.
4. Total periods for each theory paper shall be 60 per semester.
5. Total periods for practical paper shall be 60 per semester.
6. Practical examination will be held at the end of the academic year (summer).
7. CA (Continuous Assessment) Pattern for each theory paper - one test and one home assignment of 5 marks each.

Question Paper Model and Scheme of Marking

Subject: **GEOGRAPHY**

B. A. First Year (Semester I and II) **Theory (Paper I, II, and IV,V)**

(w. e. f. June 2019)

Marks: 40

Q.1 Descriptive type question **(15)**

OR

Descriptive type question

Q.2 Descriptive type question **(15)**

OR

Descriptive type question

Q.3 Write a short note on ***any two*** of the following **(10)**

a) Short note

b) Short note

c) Short note

d) Short note

Question Paper Model and Scheme of Marking

Subject: **GEOGRAPHY**

B. A. First Year (Semester I) **Practical (Paper III)**

(w. e. f. June 2019)

Marks: 40

Q.1	a) Conversion of Scale **(any two)**	**(04)**
	b) Construction of Scale **(any one)**	**(06)**
Q.2	a) Write short notes on methods of showing relief feature **(any two)**	**(04)**
	b) Representation of Landforms by Contour **(any two)**	**(06)**
Q.3	a) Conventional Signs and Symbols **(any four)**	**(04)**
	b) Interpretation of Toposheet **(any two)**	**(06)**
Q.4	Journal and Viva-voce	**(10)**

Question Paper Model and Scheme of Marking

Subject: **GEOGRAPHY**

B. A. First Year (Semester II) **Practical (Paper VI)**

(w. e. f. June 2019)

Marks: 40

Q.1	a) Density of Population **(any one)**	**(05)**
	b) Growth of Population **(any one)**	**(05)**
Q.2	a) Birth Rate **(any one)**	**(05)**
	b) Death Rate **(any one)**	**(05)**
Q.3	a) Graph-Bar/Line **(any one)**	**(05)**
	b) Age and Sex Pyramid	**(05)**
Q.4	Journal and Viva-voce	**(10)**

B. A. First Year
Subject: Geography
Semester – I
Paper- CCGEOG-I
An Introduction to Physical Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with basic concepts of physical geography. To know the development of various branches physical geography.

Utility

1. To help students to know the formation and nature of solar system, oceans, continents and landforms

Learning Objectives

1. To know the formation of continents and Oceans
2. To study the rotation and revolution of the earth and its impact

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit: 1 Introduction

A. Definition, Nature and Scope of Physical Geography
B. Branches of Physical Geography
C. Importance of Study of Physical Geography

Unit: 2 Solar System

A. Solar System and its Origin
   i. Solar System
   ii. Nebular Theory of Laplace
   iii. Tidal Hypothesis of Jeans and Jeffery

Unit: 3 Formation of Oceans and Continents

A. Continental Drift Theory
B. Plate Tectonic Theory

Unit: 4 Landforms and Rotation and Revolution of the Earth

A. First Order – Ocean and Continents
B. Second Order – Mountain, Plateau, Plain and Their Types
C. Rotation and Revolution of the Earth
   i. Rotation- Formation of Day and Night
   ii. Revolution- Formation of Seasons
   iii. Solar Eclipse and Lunar Eclipse

REFERENCES

1) Clyton. K. (1986) ‘Earth Crust’ Adus Brooks London.

2) Davis W.M. (1909) - ‘Geographical Essay’ Ginnia Co.NewYork

3) Garland G.D. (1966) - ‘Continental Drift’ Uni. of Toronto press- Canada.

4) Goh Chengleong (2018) Certificate Physical and Human Geography, Oxford University Press, New Delhi

5) Majid Hussain (2001) -‘Principals of Physical Geography’ Rawat Publication, Jaipur.

6) Monkhouse (1951) - ‘Principle of Physical Geography’ Mc Graw Hill Pub-New York.

7) Savindersingh (1998) - ‘Physical Geography’ Prayag Pub. Allahabad.

8) Steers J.A. (1958) - ‘Earth Crust’ Adus Brooks London

9) Strahler A.N. (1968) - ‘Physical Geography’ Easten P. Ltd. New Delhi

10) Tikka R. N. (1998)- ‘Physical Geography’ Keedar Nath Ram Nath &Co. Meerut

11) Wegner A. (1924) -‘The Origin of Continents and Oceans’ Mathhen & Co. Ltd. London.

12) प्रा.तावडे मो.द. - प्रा ृ ति भू ोल, ॉन्टिनेन्टल प्र ाशन, पु े-30.

13) प्रा.सु.प्र. दाते - प्रा ृ ति भू ोल, विद्या प्र ाशन, ना ापूर.

14) प्रा. शेटे पा. फुले प्रा. शहापूर र - प्रा ृ ति भू ोल, अभिजीत पब्लि ेशन, लातूर.

15) डॉ. जय ुमार म ार - भूरूपशास्त्राची मूलतत्त्वे, ॅ डेमि एन्टरप्राइस, औरं ाबाद.

16) डॉ. जय ुमार म ार - प्रा ृ ति भू ोल, ॅ डेमि एन्टरप्राइस, औरं ाबाद.

17) डॉ. विठ्ठल घारपूरे - प्रा ृ ति भू ोल, पिंपळापुरे प्र ाशन, ना ापूर.

B. A. First Year
Subject: Geography
Semester – I
Paper- CCGEOG - II
An Introduction to Human Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with Human Geography and its various branches, evolution of human race and its classification and so on.

Utility

1. To help students to know the different races of the world and respect them for peaceful coexistence

Learning Objectives

1. To know the skills human adaptation to nature
2. To understand man environment relationship

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit: 1 Introduction

A. Definition, Nature and Scope of Human Geography

B. Branches of Human Geography

C. Importance of study of Human Geography

Unit: 2 Human Races and Migration

A. Evolution of Races

B. Basis of Racial Classification and Distribution Major Races in the World

Unit: 3 Concepts of Man and Environmental Relationships

A. Environmentalism or Determinism

B. Possibilism

C. Stop and Go Determinism

Unit: 4 Human Adaptations to Environment

A. Eskimo – Cold Region

B. Bushman – Hot Region

C. Tribes of India –Naga, Bhill and Toda

References :-

1) Hagget Petter: Human Geography

2) Hussin M.: Human Geography 1994

3) Money D.S: Human Geography

4) Perpillou A.V: Human Geography, Longman, London- 1986

5) Robinson H: Human Geography, 1976

6) हुसेन माजीद, मानवी भू ोल, रावत पब्लि ेशन्स, जयपूर.

7) शेटे, फुले, शहापुर र - मानवी भू ोल, अभिजीत पब्लि ेशन, लातूर.

8) जाधव, शहापुर र, ाजरे - मानवी भू ोल, अभिजीत पब्लि ेशन, लातूर.

9) विठ्ठल घारपूरे - मानवी भू ोल, पिंपळापुरे प्र ाशन, ना ापूर.

10) ोळपे, चिम ा ुंडे, शेंड ो - मानवी भू ोल, अनुराधा पब्लि ेशन, नांदेड.

B. A. First Year
Subject: Geography
Semester – I
Paper- CCGEOG - III
Practical Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with types of maps, scales, relief and landforms

Utility

1. To develop skills among the students to decipher the landforms using contours and to convert the scales

Learning Objectives

1. To develop abilities among the students to interpret the toposheets, calculate time using longitudes
2. To learn the techniques of showing the relief and landforms

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit: 1 Introduction to Maps and Scales

A. Map: Meaning and Types

B. Representation of Scale

   i. Verbal/ Statement

   ii. Numerical/ RF

   iii. Linear/ Graphical

C. Conversion of Scale

   i. Verbal to Numerical and Numerical to Verbal

D. Construction of Scale

   i. Simple Scale

   ii. Time and Distance Scale

   iii. Diagonal Scale

Unit: 2 Methods of Showing Relief and Landforms

A. Relief

i. Hachures, Layer Tint, Spot Height, Bench Mark, Trigonometric Point and Contours

B. Landforms

i. Conical Hill, Plateau, Ridge, ‘V’ and ‘U’ Shaped Valley and Cliff

ii. Identification of Slopes Using Contour Lines

Unit: 3 Study of Survey of India Maps:

i. Conventional Signs and Symbols

ii. Interpretation of Physical and Human Features

a. Relief, Drainage and Vegetation

b. Settlements, Transportation and Communication

Unit: 4Coordinates and Graticules

i. Latitudes and Longitudes

ii. Local Time, Standard Time and Time Zones

iii. International Date Line

Reference Books:

1. Khan, S.A. : Text Book of Practical Geography.
2. Mishra, R.P. & Ramesh, A. : Fundamentals of Cartography.
3. Monkhouse, F.J. & Wilkinson, H.R. : Maps and Diagrams.
4. Singh R.L. :Elements of Practical Geography.
5. शर्मा जे. पी.: प्रायोि भू ोल
6. डॉ. अर्जुन ुंभार :प्रात्यि भू ोल
7. डॉ. अहिरराव, डी. वाय. व प्रा. रंज ोले इ. .: प्रात्यि ू ोल
8. डॉ. ना ातोडे, लांजेवार : न ाशाशास्त्र व प्रात्यि भू ोल, पिंपळापूरे प्र ाशन, ना ापूर.
9. न ुरे, मान री, मु ावे - प्रात्यि भू ोल, अरु ा प्र ाशन, लातूर.

B. A. First Year
Subject: Geography
Semester – II
Paper- CCGEOG - IV
Geomorphology

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with interior of the earth, rocks, and endogenic and exogenic forces and their resultant landforms

Utility

1. To help students to know the evolutionary process of various features of landforms

Learning Objectives

1. To develop skills among the students to identify the landforms and their agents
2. To have the knowledge of types rocks and weathering

Pre-requisites

1. Books, Maps, Globe, Models, Rock Samples
2. ICT

Unit: 1 Introduction

A. Definition, Nature and Scope of Geomorphology
B. Geomorphology and its Influence on – Settlement and Landuse

Unit: 2 Interior of the Earth, Rocks and Weathering

A. Interior of the Earth
B. Classification of Rocks According to Origin

i. Igneous
ii.Sedimentary
iii. Metamorphic

C. Types of Weathering

i. Mechanical
ii.Chemical
iii. Biological

Unit: 3 Endogenic Forces

A. Endogenic Forces
i. Types of Folds and Faults
ii.Earthquake - Meaning, Causes and Effects

Unit: 4 Exogenic Forces

A. Cycle of Erosion
B. Landforms Associated With
i. River
ii.Glacier
iii. Wind

References

1) Clyton. K. (1986) - ‘Earth Crust’ Adus Brooks London.

2) Davis W.M. (1909) - ‘Geographical Essay’ Ginnia Co.

3) Dayal P (1946) - ‘A text book of Gemorphology’ Shukla Book Depot Patana

4) Garland G.D. (1966) - ‘Continental Drift’ Uni. of Toronto press- Canada.

5) Hodgson J.H. (1964) - ‘Earthquakes and Structure’ Prentice Hall inc.

5) Kale V.A & Gupta (2001) - ‘Elements of Geomorphology’ Oxford Uni. Press

6) Majid Hussain (2001) -‘Principals of physical Geography’ ‘Rawat; Publication, Jaipur

7) Monkhouse (1951) - ‘Principle of Physical Geography’ Mc Graw Hill Pub-New York

8) Pitty A.F. (1971) - ‘Introduction of Geomorphology’ Adus Brooks London.

9) Savindersingh (1998) - ‘Physical Geography’ Prayag Pub. Allahabad.

10) Strahler A.N. (1968) - ‘Physical Geography’ Easten P. Ltd. New Delhi.

11) Steers J.A. (1958) - ‘Earth Crust’ Adus Brooks London

12) Wegner A. (1924) -‘The Origin of Continents and Oceans’ Mathhen & Co. Ltd. London.

13) Wooldridge & Morgan (1966) - ‘An Outline of Gemorphology’ Longman London.

14) तावडे मो.द. - भूरूपशास्त्र, ॉन्टिनेन्टल प्र ाशन, पु े - 30.

15) म ार जय ुमार - भूरूपशास्त्र, विद्या प्र ाशन, ना ापूर.

16) फुले सुरेश - भूरूपशास्त्र, विद्याभारती प्र ाशन, लातूर.

17) घारपुरे विठ्ठल - भूरूपशास्त्र, पिंपळापुरे प्र ाशन, ना ापूर.

18) दाते सु.प्र. आि ा दाते संजिवनी - प्रा ृति भू ोल, विद्या प्र ाशन, ना ापूर.

19) शेटे, फुले, शहापूर र - प्रा ृति भू ोल, अभिजीत पब्लि ेशन, लातूर.

20) डॉ. डी.जी. भोगे, भूरूप शास्त्र, अरुणा प्रकाशन, लातूर.

B. A. First Year
Subject: Geography
Semester – II
Paper- CCGEOG - V
Population Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with dynamics of population geography, its nature and scope

Utility

1. To help students to understand the factors affecting on growth and distribution of population

Learning Objectives

1. To study the phases of transition of population growth
2. To study structure and composition of population with reference to India

Pre-requisites

1. Books, Maps, Globe, Models, Census Report
2. ICT

Unit: 1 Meaning and Field of Population Geography

A. Definition, Nature and Scope of Population Geography
B. Relationship of Population Geography with Other Social Sciences
C. Importance of Study of Population Geography

Unit: 2 Population Growth and Distribution

A. Factors Affecting on Growth of Population
B. Population Growth in the World with Special Reference to India
C. Factors Affecting on Distribution of Population
D. Distribution of Population in the World with Special Reference to India

Unit: 3 Population Theory and Migration

A. Demographic Transition Theory
B. Causes and Types of Migration

Unit: 4 Attributes and Structure of Population

A. Birth rate and Death rate of Population in India
B. Age and Sex Composition of Population in India
C. Literacy in India

References :-

1. Beaujeu Gamier : Geography of Population, Longman, Lindon-1978
2. Clarke J.I. : Population Geography, Pergam on Press Oxford – 1972
3. Chandana R.C. : Geography of Population, Kalyani Pub. Ludhiyana 1988
4. Ghosh B.N. : Fundamentals of Population Geography
5. Hussin M. : Human Geography 1994
6. Perpillou A.V. : Human Geography, Longman, London- 1986
7. Robinson H. : Human Geography, 1976
8. Mishra & Puri : Indian Economy 2004
9. Hassan Mohammead I. : Population Geography, 2005
10. Bhende Asha & Kanitkar Tara : Principlas of Population Studies
11. Sawant S.B. & Athavale A.S. Population Geography, Mehta Publishing House, Pune
12. अहिरराव आलझड - लो सं या भू ोल.
13. विठ्ठल घारपूरे - लो सं या भू ोल, पिंपळापुरे प्र ाशन, ना ापूर.
14. शेटे, फुले, शहापूर र - लो सं या भू ोल, अभिजीत प्र ाशन, लातूर.
15. माजीद हुसेन - मानवी भू ोल, रावत पब्लि ेशन, जयपूर.
16. राठोड, चव्हा ा - लो सं या भू ोल, र ावीर पब्लि ेशन, परभ ी.

B. A. First Year
Subject: Geography
Semester – II
Paper- CCGEOG - VI
Practical Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with different types of population density and skills to interpret them

Utility

1. To help students to project, analyze and plan the population growth

Learning Objectives

1. To develop the skills among the students to interpret the results using representation tools

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit: 1 Density and Growth of Population

A: Density of Population

i. Arithmetic Density
ii. Agricultural Density
Interpretation of Results Using Dot Method or Bar Graph

B: Growth of Population

i. Population Growth Rate
ii. Average Annual Population Growth Rate
iii. Population Projection – Arithmetic and Geometric Methods
Interpretation of the Results Using Line Graph or Bar Graph

Unit: 2 Birth and Death Rate

A: Birth Rate

i. Crude Birth Rate
ii. Standard Birth Rate
Interpretation of the results

B: Death Rate

i. Crude Death Rate
ii. Age Specific Death Rate
Interpretation of the results

Unit: 3 Representations of Population Data

i. Bar Graphs: Simple, Multiple
ii. Line Graphs: Simple, Multiple
iii. Age and Sex Pyramid
Interpretation of the results

Reference Books:

1. Khan, S.A. : Text Book of Practical Geography.
2. Mishra, R.P. & Ramesh, A. : Fundamentals of Cartography.
3. Monkhouse, F.J. & Wilkinson, H.R. : Maps and Diagrams.
4. Singh R.L. :Elements of Practical Geography.
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7. डॉ. अहिरराव, डी. वाय. व प्रा. रंज ोले इ. .: प्रात्यि भू ोल
8. डॉ. ना ातोडे, लांजेवार : न ाशाशास्त्र व प्रात्यि भू ोल, पिंपळापूरे प्र ाशन, ना ापूर.
9. ा ुरे, मान री, मु ावे - प्रात्यि भू ोल, अरु ा प्र ाशन, लातूर.

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।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
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Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
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संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.१३/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

१) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–इंग्रजी (अनिवार्य, अतिरिक्त (द्वितीय भाषा), फंक्शनल इंग्रजी, ऐच्छिक)
२) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–हिंदी (द्वितीय भाषा, ऐच्छिक)
३) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–कन्नड (द्वितीय भाषा, ऐच्छिक)
४) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–मराठी (द्वितीय भाषा, ऐच्छिक)
५) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–पाली (द्वितीय भाषा, ऐच्छिक)
६) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय–संस्कृत (द्वितीय भाषा, ऐच्छिक)
७) बी.ए./बी.एस्सी./बी.कॉम./बी.एस.डब्ल्यू./फाईन आर्टस्–द्वितीय वर्ष–उर्दू (द्वितीय भाषा, ऐच्छिक)
८) बी.ए.–द्वितीय वर्ष–अर्थशास्त्र
९) बी.ए.–द्वितीय वर्ष–भूगोल
१०) बी.ए.–द्वितीय वर्ष–इतिहास
११) बी.ए.–द्वितीय वर्ष–सैनिकशास्त्र
१२) बी.ए.–द्वितीय वर्ष–तत्त्वज्ञान
१३) बी.ए.–द्वितीय वर्ष–राज्यशास्त्र
१४) बी.ए.–द्वितीय वर्ष–मानसशास्त्र
१५) बी.ए.–द्वितीय वर्ष–लोकप्रशासन
१६) बी.ए.–द्वितीय वर्ष–समाजशास्त्र
१७) बी.ए.–द्वितीय वर्ष–ॲडमिनिस्ट्रेटीव्ह सर्व्हिस

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**२४९**
दिनांक : ०८.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS

Faculty of Humanities

GEOGRAPHY

B.A. SECOND YEAR

SEMESTER PATTERN
(Choice Based Credit System)

With Effect from: June, 2020

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS) Course Structure

Faculty of Humanities

Subject-Geography

B. A. Second Year (New Pattern)

W*ith effect from*: June, 2020

Semester	Core Course	Paper No.	Name of the Paper	Lectures/ Week	Total No. of Lect. Per Sem.	CA	ESE	Total Marks	Credits
III	CCGEOG- VII	VII	Climatology	04	60	10	40	50	02
	CCGEOG- VIII	VIII	Economic Geography Or Political Geography	04	60	10	40	50	02
	CCGEOG- IX	IX	Practical Geography	03 (Per Batch)	60	10	40	50	02
	SEC	I	Tourism Geography	03	45	25	25	50	02
Semester - III Total				**14**	**225**	**55**	**145**	**200**	**08**
IV	CCGEOG- X	X	Oceanography	04	60	10	40	50	02
	CCGEOG- XI	XI	Settlement Geography Or Geography of Regional Planning	04	60	10	40	50	02
	CCGEOG- XII	XII	Practical Geography	03 (Per Batch)	60	10	40	50	02
	SEC	II	Soil Geography	03	45	25	25	50	02
Semester - IV Total				**14**	**225**	**55**	**145**	**200**	**08**

(CC= Core Course, CA= Continuous Assessment (Internal), ESE= End Semester Examination, SEC=Skill Enhancement Course).

Instructions

1. Teaching work load shall be four periods per week for each theory paper and three periods per batch per week for practical.
2. Strength of students for each practical batch shall not be more than 20 (twenty).
3. Students shall not be allowed for Practical Examination without certified journal.
4. Total periods for each theory paper shall be 60 per semester.
5. Total periods for practical paper shall be 60 per semester.
6. Practical examination will be held at the end of the academic year (summer).
7. CA (Continuous Assessment) Pattern for each theory paper - one test and one home assignment of 5 marks each.
8. CA (Continuous Assessment) Pattern for each practical paper - one test and one home assignment of 5 marks each.
9. CA (Continuous Assessment) Pattern for SEC – one test and one home assignment of 10 marks each and one seminar of 05 marks

Question Paper Model and Scheme of Marking
BASY Geography
End Semester Examination **(ESE)**
Theory
Semester (III & IV) Paper (VII VIII & X XI)
(w. e. f. June 2020)

Marks: 40

Q.1	Descriptive Question Or Descriptive Question	15Marks
Q.2	Descriptive Question Or Descriptive Question	15Marks
Q.3	Write short note on any two of the following i. Short note ii. Short note iii. Short note iv. Short note	10Marks

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Question Paper Model and Scheme of Marking
BASY Geography
End Semester Examination **(ESE)**
Skill Enhancement Course **(SEC)**
(Sem. III&IV) Paper SEC (I&II)
(w. e. f. June 2020)

Marks: 25

Q.1 Skill Work Report (Project)	10 Marks
Q.2 Overall Skill Judgment (Written Exam)	10Marks
Q.3 Skill Work Presentation (Viva-Voce)	05 Marks

Question Paper Model and Scheme of Marking
BASY Geography
End Semester Examination **(ESE)**
Practical
Semester (III) Paper (XI)
(w. e. f. June 2020)

Marks: 40

Q.1	a) Wind Rose	5Marks
	b) Climatograph/Hythergraph	5Marks
Q.2	a) Minimum Maximum Thermometer	5Marks
	b) Raingauge/Cup Anemometer	5Marks
Q.3	a) Weather Signs and Symbols/Station Model	5Marks
	b) Interpretation of Daily Weathers Map	5Marks
Q.4	Journal and Viva Voce	10Marks

Question Paper Model and Scheme of Marking
BASY Geography
End Semester Examination **(ESE)**
Practical
Semester (IV) Paper (XII)
(w. e. f. June 2020)

Marks: 40

Q.1	a) Divided Circle Diagram	5Marks
	b) Square Diagram	5Marks
Q.2	a) Cube Diagram	5Marks
	b) Circle Diagram	5Marks
Q.3	a) Dot Maps/ Flow-line Maps	5Marks
	b) Density of Settlements/ Rank Size Rule	5Marks
Q.4	Journal and Viva Voce	10Marks

B. A. Second Year
Subject: Geography
Semester- III
Paper-CCGEOG- VII
Climatology

Marks: 50 **Credits: 02** **Periods: 60**

Salient features:

1. The aim of the course is to introduce the student with Climate and its various components and also to study their dynamics.

Utility

1. To help students to know the climate since the Formation of the earth and changes those have occurred over a period of time and to predict climate change

Learning Objectives

1. To provided in depth knowledge about climatology.
2. To prepare student for various competitive examination.

Prerequisites

1. Book, Map, Globe, Models
2. ICT

Unit-1: Climatology its field Weather and Climate **12 Periods**

A) Definition, nature and scope of climatology

B) Elements of weather and Climate

Unit-2: Atmosphere, Insolation and Temperature **12 Periods**

A) Atmosphere: Composition and Structure
B) Insolation and Horizontal and Vertical distribution of temperature

Unit-3: Atmospheric Pressure and Winds **12 Periods**

A) Atmospheric pressure: vertical and horizontal distribution of pressure
B) Types of Winds: Planetary, Periodic and Local winds.

Unit-4: Atmospheric Moisture and Cyclones **12 Periods**

A) Atmospheric Moisture - humidity and its types,
Evaporation, condensation, and forms of precipitation.
B) Tropical Cyclone.

Unit-5: Climate Classification and Applied climatology **12 Periods**

A) Thornthwaite's classification of climate of the world.
B) Applied Climatology: Urban climate, climate and Health,

Suggested Readings:

1. Trewartha, G. T.: An Introduction to Climate, McGraw Hill, New York.
2. Critchfield, H. : General Climatology, Prentice-Hall, New York.
3. Barry, R. G. and Chorley, R. J.: Atmosphere, Weather and Climate, Routledge.
4. Lal, D. S. : Climatology, Sharda Pustak Bhawan, Allahabad.
5. Miller, A.A.: Climatology, Dutton.
6. Kendrew, W. G. : Climatology, Oxford, Stringer, E. T.: Foundations of climatology, Surjeet Publications, Delhi.
7. Shapley, H.: Climate Change- Evidence, Causes and Effects, Harvard University Press.
8. Monkhouse, F. J. : Principles of Physical Geography, Hodder and Stoughton, London.
9. Strahler, A. N. and Strahler, A. H.- Modern Physical Geography, John Wiley and Sons, London.
10. Singh, Savinder - Physical Geography, Prayag Pustak Bhawan, Allahabad.
11. डॉ. शेटे,एस. टी.: हवामानशास्त्र व सागरविज्ञान, अभिजीत पब्लिकेशन, लातूर
12. कोलते, के. टी., पुराणिक, एम. जी., कुबडे, सुमती - हवामानशास्त्र व सागरविज्ञान, विद्या प्रकाशन नागपूर.
13. घारपुरे, विठ्ठल : हवामानशास्त्र व सागरशास्त्र, पिंपळापूरे प्रकाशन, नागपूर.
14. प्रा. डॉ. हरिदास राठोड, डॉ. एन.के. वाघमारे, डॉ. जे.के. वाघमारे - हमानशास्त्र डायमंड-प्रकाशन पुणे.

B. A. Second Year
Subject: Geography
Semester: III
Paper: CCGEOG-VIII
Economic Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with basic concepts of Economic Geography. To know the various branches of Economic Geography.

Utility

1. To help students to know the agriculture, farming, production of crops, various resources, industries, transportation and trade which govern economic development.

Learning Objectives

1. To know branches and significance of Economic Geography.
2. To study agriculture, minerals, power resources, industries, transport routes and trade.

Prerequisites

1. Books, Maps, Globe, G.I.S. Models
2. I.C.T.

Unit 1: Introduction **12 Periods**

A) Definition, nature, scope and significance of Economic Geography.
B) Branches of Economic Geography.

Unit 2: Agriculture **12 Periods**

A) Types of agriculture and factors affecting on them.
   i. Intensive farming, ii. Extensive farming
B) Distribution and Production of Major Crops in the World
   i. Wheat ii. Cotton

Unit 3: Importance of Minerals and Power Resources **12 Periods**

A) Mineral Resources
   i. Iron ii. Manganese
B) Power Resources
   i. Coal ii. Petroleum

Unit 4: Industries **12 Periods**

A) Factors affecting on location of industries.
B) Weber's Theory of Industrial Location.
C) Major industries in the world-
   i. Iron and steel industry
   ii. Cotton textile industry.

Unit 5: Transport and Trade **12 Periods**

A) Major Transport Routes –Land, Water and Air Routes.
B) Trade-National and International.

Suggested Readings:

1. Jones, C.F. and Darkenwald, G.G. : Economic Geography, Surjeet Publications, New Delhi.
2. Truman, A., Hartshrone, Richard : Economic Geography, PHL Learning Pvt. Ltd. New Delhi.
3. Chouhan, R.N. : Principles of Economic Geography, ABD Publications, Jaipur.
4. Kaur, Raninder : Economic Geography, Subline Publication, Jaipur.
5. Berry J.L. Geography of Market Centres and Retail Distribution
6. Chatterjee, S.P.Economic Geography of Asia
   Chorley, R.J. and Haggett, P.
7. Network Analysis in Geography
8. Dreze, J. and Sen, A.: India-Economic Development and Social Opportunity.
9. Hamilton, F.E.I: Spatial Perspectives on Industrial Organization and Decision Making
10. Hamilton, I.: Resources and Industry
11. Hurst, E.:Transport Geography-Comments and Readings
12. Morgan, W.B. and Munton R.J.C.: Agricultural Geography
13. Pachuri, R.K. :Energy and Economic Development in India
14. Robertson, D. :Globalization and Environment
15. Rostow, W.W.:The Stages of Economic Growth
16. Singh J. and Dhillon S.S.:Agricultural Geography
17. Symons L.: Agricultural Geography
18. Wheeler, J.O: Economic Geography

B. A. Second Year
Subject: Geography
Semester – III
Paper- CCGEOG-VIII (OR)
Political Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with fundamentals of Political Geography.

Utility

1. To understand the geopolitics, its significance, and international relations.

Learning Objectives

1. To provide in depth knowledge about political geography
2. To prepare students for various competitive examinations

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit-1: Introduction **12 Periods**

A. Definition, Nature and Scope of Political Geography
B. Approaches to the Study of Political Geography

Unit-2: Geographic Elements of State **12 Periods**

A. Physical Elements and the State
B. Economic Elements and the State

Unit-3: Themes in Political Geography **12 Periods**

A. State, Nation and Nation-State (Meaning, Emerging Factors and Difference)
B. Frontiers and Boundaries (Meaning, Classification and Difference)

Unit-4: Global strategic Views **12 Periods**

A. Concept of Geopolitics
B. The Views of Mackinder's Heartland Theory and Spykman's Rimland Theory

Unit-5: Political Geography of Contemporary India **12 Periods**

A. Political Geography of Contemporary India with Special Reference to Changing Political Map of India.
B. Interstate Issues (Like Water Disputes and Riparian Claims) and Conflict Resolutions, Emergence of New State.

Suggested Readings:

1) Alexander, L.M. : World Political Patterns

2) De Blij, H.J. and Glassner, Matrin : Systematic Political Geography

3) Dikshit, R.D. : Political Geography

4) Sukhwal, B.L. : Modern Political Geography of India.

5) Taylor, B.L. : Political Geography

6) Pounds N.J.G. : Political Geography

7) John, R. Short : An Introduction of Political Geography

8) Moddie, A.E. : Geography Behind Politics

9) Prescott, J.R.V. : The Geography of Frontiers and Boundaries

10) Deshpande C.D. : India – A Regional Interpretation

11) Panikkar K.M. : Geographical Factors in Indian History

12) Gulave : Rajakiy Bhugol

13) Bhagvat A. V. : Rajakiy Bhugol

14) Gharpure V. : Rajakiy Bhugol

B. A. Second Year
Subject: Geography
Semester – III
Paper- IX
Practical Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with different types of climatic data, presentation and their interpretation.

Utility

1. To develop skills among the students to analyze climatic variations through the study of Weather Instrument and Indian Daily Weather Reports.

Learning Objectives

1. To develop the skill of presenting meteorological statistics with the help of graphs and figures.
2. To inculcate in the students the skills of reading the Indian daily weather maps.

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit-1: Climatic Graphs and Diagrams **15 Periods**

A) Wind Rose
B) Climatograph
C) Hythergraph

Unit-2: Weather Instruments (Mechanism, Function and Use) **15 Periods**

A) Minimum and maximum thermometer
B) Raingauge
C) Cup Anemometer

Unit-3: Weather Signs, Symbols and Shapes of Isobars **15 Periods**

A) Weather Signs and Symbols
B) Shapes of Isobars on Weather Maps

Unit-4: Study of Indian Daily Weather Report **15 Periods**

A) Interpretation of Indian Daily Weather Maps one each from Winter, Summer and Rainy season
B) Weather Station Model

Suggested Readings:

1) Kha, Z.A. : Text Book of Practical Geography Concept, New Delhi, 1998
2) Lawarence, G.R.P. : Cartography Methods, Methuen London, 1968
3) Mishra, R.P. & Ramesh A. : Fundaments of Cartography, McMillan Co. New Delhi 1986.
4) Monkhouse, F.J. & Wilkinson, H.R. : Maps and Diagrams, London, 1994.
5) Sarkar, A.K. : Practical Geography A Systematic Approach Orient Longman,Calcutta, 1997
6) Singh, R.L. : Elements of Practical Geography, Kalyani Publication, New Delhi.
7) Gopal Singh: Map Work and Practical Geography
8) Mishra R. P. , A. Ramesh: Fundamental of Cartography
9) Raj Singh,RaghunandanSingh:Map Work and Practical Geography
10) R. L. Singh, P. K. Dutt: Elements of Practical Geography
11) Robinsons A. R. :Elements of Cartography
12) Erwin Raigz: General Cartography
13) जे. पी. शर्मा: प्रायोगिक भूगोल
14) अहिरराव डी. वाय. व करंजखेले इ. के.: प्रात्यक्षिक भूगोल अर्जुन कुंभार: प्रायोगिक भूगोल
15) डॉ. नाकतोडे; नकाशाशास्त्र व प्रात्यक्षिक भूगोलशास्त्र
16) डॉ. के. बी. कनकुरे, डॉ. एम. पी. मानकरी व डॉ. आर. एम. मुगावे: प्रात्यक्षिक भूगोल
17) हीरालाल यादव: प्रायोगिक भूगोल
18) जयकुमार मगर: प्रात्यक्षिक भूगोल
19) डॉ. शिंदे एस. बी.: नकाशाशास्त्र

B. A. Second Year
Subject: Geography
Semester – III
Paper-SEC-1
Tourism Geography

Marks: 50 **Credits: 02** **Periods: 45**

Salient Features

1. The aim of this course is to introduce the students with various aspects of tourism and tourists.

Utility

1. To help students to learn the skills of arrangement and organization of tours.

Learning Objectives

1. To have the basic knowledge of tourism and its significance.
2. To study the behavioural aspects of tourists in tourist places.

Prerequisites

1. Books, Maps, Globe.
2. Field visit, ICT

Unit-1: Introduction

A) Definition, nature, scope and significance of tourism geography **15 Periods**
B) Types of tourists and tourism.
C) Environment Laws.

Unit-2: Communication skills in tourism **15 Periods**

A) Communication skills (Oral and written).
B) Techniques of advertisement.

Unit-3: Logistics and visit to tourist places **15 Periods**

A) Destination and transportation booking skills through internet.
B) Behavioural study of host and guest of tourist centers.

Suggested Readings:

1) Bhatia, A.K. (1983) : Tourism Development, Sterling Publishers Ptv. Ltd., Benglor.
2) Gharpure Vitthal (2001): Geography of Tourism, Pimpalapure and Co. Publication, Nagpur.
3) Khatib K. A.: Geography of Tourism, Mehta Publications, Kolhapur.
4) Bhatiya, A.K. (1991) : ‘International Tourism-Fundamental and Practices’, New Delhi.
5) Hunter C and Green H (1995) : ‘Tourism and the Environmental : A sustainable relationship’, Rutledge London.
6) Lea J. (1988) : ‘Tourism and Development in the third world’, Rutledge London.
7) Williams, Stephen (1998) : ‘Tourism Geography’, Rutledge Contemporary Human Geography,London.
8) Sharma Vinod (2015): Prachi Atlas of India & World, Prachi Pub. New Delhi.
9) Mangnale,S.K and Manakari,M.P,(2019) Paryatan Bhugol, Aruna Prakashan, Latur

B. A. Second Year
Subject: Geography
Semester – IV
Paper- CCGEOG-X
Oceanography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with oceanography and significance of its study and to know properties and dynamics of oceanic water.

Utility

1. To help students to know the history and significance of Oceanography

Learning Objectives

1. To have the knowledge of physical and chemical properties of oceans.
2. To know the types of oceanic currents and their distribution.

Prerequisites

1. Books, Maps, Globe, Models.
2. ICT

Unit-1: Oceanography and Its Field **12 Periods**

A) Definition, nature and scope of Oceanography
B) Significance of study of Oceanography

Unit-2: Surface Configuration of Ocean Floor and Resources **12 Periods**

A) Surface configuration of ocean floor:
Continental shelf, Continental slope, Abyssal plain and Trenches.
B) Ocean Resources: Biotic, Mineral and Energy Resources

Unit-3: Ocean Temperature **12 Periods**

A) Oceanic Temperature: Factors affecting on ocean temperature
B) Distribution of oceanic temperature

Unit-4: Salinity of Ocean **12 Periods**

A) Salinity of Ocean: Factors affecting on ocean salinity
B) Horizontal distribution of ocean salinity

Unit-5: Circulation of Oceanic Waters: **12 Periods**

A) Circulation of oceanic waters-waves, tides and currents.
B) Currents of Atlantic, Pacific and Indian Oceans.

Suggested Readings:

1) Anikouchine,W. A. and Sternberg, : The World Oceans- An Introduction to Oceanography, Englewood Cliffs, N. J.

2) Grald, S. : General Oceanography- An Introduction, John Wiley & Sons, New York.

3) Garrison, T. Oceanography, Wadsworth. USA.

4) King, C.A.M. : Beaches and Coasts, E. Arnold, London.

5) King, C.A. M. : Oceanography for Geographers E. Arnold, London.

6) Sharma, R. C. Vatel M.: Oceanography for Geographers. Chetnya Publishing House Allahabad.

7) Shepard, F.P. : Submarine Geology, Harper & Sons, New York.

8) Thurman, H. B. : Introductory Oceanography, Charles Webber E. Merril publishing Co.

9) Weisberg. J. and Howard : Introductory Oceanography, McGraw- Hill Book , New York.

10) Manakari, M.P. and Mangnale, S.K. Oceanography, Aruna Prakashan, Latur

B. A. Second Year
Subject: Geography
Semester – IV
Paper- CCGEOG-XI
Settlement Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with fundamentals of Settlement Geography

Utility

1. To understand the process of evolution of rural and urban centre in the world and in India

Learning Objectives

1. To provide in depth knowledge about settlement geography
2. To prepare students for various competitive examinations

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT,

Unit-1: Introduction **12 Periods**

A) Definition, Nature and Scope of Settlement Geography
B) Origin and Evolution of Settlements

Unit-2: Rural Settlements **12 Periods**

A. Factors Affecting on Distribution of Rural Settlements
B. Types, Patterns and Functions of Rural Settlements

Unit-3: Concepts and Functions Urban Areas **12 Periods**

A. Concepts: i. Rural -Urban Fringe ii. Hinterland iii. Rank Size Rule
B. Functional Classification of Urban Areas

Unit-4: Landuse Models **12 Periods**

A. Central Place Theory of Christaller
B. Concentric Zone Model of E.W. Burges

Unit-5: Urbanization in India **12 Periods**

A. Process, Trends of Urbanization in India
B. Urban Problems and Planning in India

Suggested Readings:

1) Alam, S.M. : Hyderabad, Secunderabad Twin Cities
2) Berry B.J.L. and Horton F.F. : Geographic Perspectives on Urban Systems
3) Carter H. : The Study of Urban Geography
4) Chorley, R.J.O. Haggett P. : Models of Geography
5) Dickinson, R.E. : City and Region
6) Dwyer, D.J. : The City as a Center of Change in Asia
7) Gibbs, G.P. : Urban Research Methods
8) Hall, P. : Urban Development and Urban Geography
9) Kundu, A. : Urban Development and Urban Geography
10) Mumford, L. : Culture of Cities
11) Smailes A.E. : The Geography of Towns
12) Meyor and Kohn : Reading in Urban Geography
13) Daniel. P, and Hopkinson. M,: The Geography of Settlement
14) Ramchandran.R,: Urbanization and Urban Systems in India
15) Gharpure V. : Vasti Bhugol, Pimplapure Prakashan, Nagpur

B. A. SECOND YEAR
Subject: Geography
Semester – IV
Paper-CCGEOG-XI (OR)
Geography of Regional Planning

Marks:50 **Credit:02** **Periods:60**

Salient Features

1. The aim of this course is to introduce the students with basics of regional planning and significance of its study.

Utility

1. To help students to know the dynamics of region and its impact on planning

Learning Objectives

1. To understand and evaluate the concept of region in geography and its role and relevance in regional planning.
2. To identify the issues relating to the development of region and regional disparities.

Prerequisites

1. Books, Maps, Globe, Models.
2. ICT

Unit-1: Introduction **12 Periods**

A. Concept of Region and types of region in the context of planning
B. Meaning and objectives of regional planning.

Unit-2: Types of Planning **12 Periods**

A. Short term planning and long term planning.
B. Physical and economic planning.

Unit-3: Development and Disparity **12 Periods**

A. Concept of Growth and Development, Indicators of development,
B. Regional imbalances in India – Agricultural and Rural-Urban.

Unit-4: Theoretical frame work for regional planning **12 Periods**

A. Growth pole.
B. Growth foci approach.

Unit-5: Regional planning in India **12 Periods**

A. Rural development planning.
B. Tribal area development planning.

Suggested Reading:

1. Abler, R., et. al: Spatial Organization : The geographer's view of the world, prentice Hall, Englewood Cliffs, N.J. 1971

2. Bhat, L.S: Regional Planning in India, Statistical Publishing Society, Caluctta, 1973

3. Bhat, L.S. et al: Micro – Level Planning, A Case study of Karnal Area, Haryana, K.B. Publications New Delhi, 1976

4. Chorley, R.J. and Hagget, P.: Models in Geography, Methuen, London, 1967

5. Christaller, w.: Central Places in Southern Germany, Translated by C.W. Baskin. Prentice Hall. Englewood Cliffs, New Jersey, 1966

6. Friedmann, J and Alonso, w.: Regional Development Policy-A case study of Venezuela. M.I.T.Press Cambridge,1967

7. Friedmann,. J. and Alonso, W.: Regional Development and planning – A Reader, M.I.T. Press, Cambridge, 1967.

8. Glikson, Arthur : Regional Planning and Development, Netherlands Universities foundation for international Cooperation, London, 1955.

9. Gosal, G.S. and Krishan, G: Regional Disparities in Levels of Socio – Economic Development in Punjab, Vishal publications, kurukshetra, 1984.

10.Government of India, planning Commission : Third Five year Plan, Chapter on regional Imbalances in Development, New Delhi, 1961.

11. Indian Council of social science Research : Survey of research in Geography, Popular prakashan, Bombay, 1972.

12. Johnson, E.A.J. The organization of Space in developing Countries, Harvard University press, Cambridge, 1970.

13. Kuklinski, A.R.(ed) Growth poles and Growth Centers in Regional planning, Mouton, The Hague, 1972.

14. Kundu, A and Raza, Moonis: Indian Economy- The Regional Dimension, Spectrum Publishers, New Delhi, 1982.

B. A. Second Year
Subject: Geography
Semester – IV
Paper- XII
Practical Geography

Marks: 50 **Credits: 02** **Periods: 60**

Salient Features

1. The aim of this course is to introduce the students with knowledge of representation of geographical data.

Utility

1. To develop among the students the skills of learning through playing with geographical data

Learning Object

1. To develop the technique of representation and analyses of data.

Pre-requisites

1. Books, Maps, Globe, Models
2. ICT

Unit-1: Two Dimensional Diagrams **12 Periods**

A) Divided Circle Diagram
B) Square Diagram

Unit-2: Three Dimensional Diagrams **12 Periods**

A) Cube Diagram
B) Circle Diagram

Unit-3: Distributional Maps **18 Periods**

A) Dot Maps
B) Choropleth Maps
C) Flow-line Maps

Unit-4: Quantitative Methods in Settlement Studies **18 Periods**

A) Density of Settlement
B) Concentration Index of rural settlements (Debouverie's method)
C) Primate City and Rank Size Rule

Suggested Readings:

1) Kha, Z.A. : Text Book of Practical Geography Concept, New Delhi, 1998
2) Lawarence, G.R.P. : Cartography Methods, Methuen London, 1968
3) Mishra, R.P. & Ramesh A. : Fundaments of Cartography, McMillan Co. New Delhi 1986.
4) Monkhouse, F.J. & Wilkinson, H.R. : Maps and Diagrams, London, 1994.
5) Sarkar, A.K. : Practical Geography A Systematic Approach Orient Longman,Calcutta, 1997
6) Singh, R.L. : Elements of Practical Geography, Kalyani Publication, New Delhi.
7) Gopal Singh: Map Work and Practical Geography
8) Mishra R. P. , A. Ramesh: Fundamental of Cartography
9) Raj Singh,RaghunandanSingh:Map Work and Practical Geography
10) R. L. Singh, P. K. Dutt: Elements of Practical Geography
11) Robinsons A. R. :Elements of Cartography
12) Erwin Raigz: General Cartography
13) जे. पी. शर्मा: प्रायोगिक भूगोल
14) अहिरराव डी. वाय. व करंजखेले इ. के.: प्रात्यक्षिक भूगोल अर्जुन कुंभार: प्रायोगिक भूगोल
15) डॉ. नाकतोडे; नकाशाशास्त्र व प्रात्यक्षिक भूगोलशास्त्र
16) डॉ. के. बी. कनकुरे, डॉ. एम. पी. मानकरी व डॉ. आर. एम. मुगावे: प्रात्यक्षिक भूगोल
17) हीरालाल यादव: प्रायोगिक भूगोल
18) जयकुमार मगर: प्रात्यक्षिक भूगोल
19) डॉ. शिंदे एस. बी.: नकाशाशास्त्र

B. A. Second Year
Subject: Geography
Semester – IV
Paper-SEC-2
Soil Geography

Marks: 50 **Credits: 02** **Periods: 45**

Salient Features

1. The aim of this course is to introduce the students with various aspects of soil like formation, types, properties, soil testing, conservation etc.

Utility

1. To help students to learn the skills of soil testing and understand fertility

Learning Objectives

1. To have the knowledge of physical and chemical properties of soil.
2. To know the types of soils, their formation, and fertility levels.

Prerequisites

1. Books, Maps, Globe, Models.
2. Field visit, ICT

Unit-1: Introduction **15 Periods**

A) Definition, scope and composition of soil.
B) Soil as a component of geography.
C) Factors (biotic and abiotic) affecting on soil formation and types of soils.

Unit-2: Soil Testing and Biogeochemical Cycles **15 Periods**

A) Procedure and importance of soil testing
B) Biogeochemical cycles (any three)
   i. Carbon Cycle
   ii. Nitrogen Cycle
   iii. Phosphorous Cycle
   iv. Sulphur Cycle
   v. Potassium Cycle

Unit-3: Soil Pollution and Conservation **15 Periods**

A) Causes of soil pollution and degradation

B) Methods and importance of soil conservation

Suggested Readings:

1) Backman, H.O and Brady, N.C.: The nature and properties of soil, Mc Millan New York,1960.

2) Bennet, Hugh H.: The Geography of soils, MeGraw Hill,New York.

3) Clark G.R.: Study of the soil in the field, Oxford University Press,Oxford,1957

4) Govinda Rajan,S.V. and Gopala Rao,H.G.: Studies on soil of India, Vikas Publication New Delhi,1978

5) Partiram, Brajendra N.S., Azad Thakur & T. Ramesh: Soil Testing and Analysis (Plant, Water& Pesticide Residues), Published by new India Publishing Agency, New Delhi.

6) F.J.Stevenson & M Acole(2015): Cycle of Soil, Published by Wiley India, Delhi.

7) Rajendra Prasad, James F. Power (2014): Soil fertility management for sustainable Agriculture, Special India Edition.

8) U. Thapa & P. Tripathy(2010): Organic farming in India(Problems & Prospects), Agrotech Publication Academy Udaipur.

* * * * *

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

ACADEMIC (1-BOARD OF STUDIES) SECTION

Phone: (02462) 229542
Fax : (02462) 229574
Website: www.srtmun.ac.in **E-mail: bos.srtmun@gmail.com**

कला विद्याशाखेतील पदवी स्तरावरील
हिन्दी विषयाचा सी.बी.सी.एस. पॅटर्नचा
अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७
पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक १२ मे २०१६ रोजी संपन्न झालेल्या ३६व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.९/३६–२०१६** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील कला विद्याशाखेतील पदवी स्तरावरील** खालील विषयाचा **C.B.C.S. (Choice Based Credit System) Pattern** चा अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्यात येत आहे.

१. बी.ए./बी.कॉम./बी.एस्सी. हिन्दी (अनिवार्य, द्वितीय भाषा आणि ऐच्छिक) – प्रथम वर्ष (सत्र पहिले व दुसरे)

सदरील अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहे. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/८७१
दिनांक : १२.०८.२०१६.

स्वाक्षरित/–
संचालक
महाविद्यालय व विद्यापीठ विकास मंडळ

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. परीक्षा नियंत्रक यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

"ज्ञानतीर्थ", विष्णुपुरी, नांदेड.

प्रथम वर्ष हिन्दी पाठ्यक्रम

नवीन सत्र पद्धति + C.B.C.S. पॅटर्न

(स्नातक स्तर)

दीर्घोत्तरी + बहु-विकल्पी + C.B.C.S. पॅटर्न

(Theory + MCQ+C.B.C.S. Pattern Syllabus)

जून 2016 से प्रारंभ

स्वामी रामानंदतीर्थ मराठवाडा विश्वविद्यालय, नांदेड

"ज्ञानतीर्थ" , विष्णुपुरी, नांदेड.

प्रथम वर्ष हिन्दी पाठ्यक्रम
हिन्दी द्वितीय भाषा (S.L.) (स्नातकस्तर)
बी.ए./ बी.कॉम/ बी.एस्सी.
पाठ्यक्रम सत्र पद्धति + C.B.C.S. पॅटर्न
w.e.f. जून 2016
नवीन C.B.C.S. सत्र पद्धति पाठ्यक्रम

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks)
(30 Theory)
(10 MCQ)
पेपर क्र. I, II (S.L.) द्वितीय भाषा

स्वामी रामानंदतीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष बी.ए., बी.कॉम., बी.एस्सी., द्वितीय भाषा हिन्दी
CBCS पॅटर्न (सेमिस्टर) पद्धति(S.L.) पाठ्यक्रम,

प्रथम वर्ष SL की रूपरेखा

(पॅटर्न CBCS सेमिस्टर पद्धति, w.e.f. जून २०१६)

(साहित्य भारती)

सेमिस्टर	पेपर नं.	पेपर का नाम	लेक्चर प्रत्येक/ सप्ताह	कुल पिरेड	अन्तर्गत मूल्यांकन (C.A.)	सेमिस्टर के अंक (E.S.E.)	कुल अंक	क्रिडीट
१	१	साहित्य भारती	०४	५५	३५	४०	७५	०३
२	२	साहित्य भारती	०४	५५	३५	४०	७५	०३

नोट: उपर्युक्तविषय के अनुसार पेपर का नाम, पेपर क्रमांक I, II के अनुसार लेक्चर प्रत्येकसप्ताह में ०४, कुल पिरेड ५५, अन्तर्गत मूल्यांकन ३५ जिसमें दो (२) Test होंगे। प्रत्येक Test के लिए १० अंकहोंगे। १०+१०=२० और १५ अंकोंका Assignment रहेगाTheory ४० अंको के लिए कुल अंक ७५ होंगे। प्रत्येक पेपर के लिए क्रेडीट ०३ रहेंगे।

स्वामी रामानंदतीर्थ मराठवाडा विश्वविद्यालय, नांदेड

"ज्ञानतीर्थ" , विष्णुपुरी, नांदेड.

प्रथम वर्ष बी.ए. ऐच्छिक हिन्दी,

CBCS पॅटर्न (सेमिस्टर) पद्धति CBCS पाठ्यक्रम,

प्रथम वर्ष ऐच्छिक हिन्दी की रूपरेखा

w.e.f. जून २०१६

नवीन C.B.C.S. सत्र पद्धति पाठ्यक्रम

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks)
(30 Theory)
(10 MCQ)
पेपर क्र. I, II, III & IV (opt.)

स्वामी रामानंदतीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष बी.ए. ऐच्छिक हिन्दी,
CBCS पॅटर्नसेमिस्टर पद्धति CBCS पाठ्यक्रम,

प्रथम वर्ष ऐच्छिक हिन्दी की रूपरेखा

w.e.f. जून २०१६

कथासाहित्य - I / III

नाटक तथा एकांकी - II / IV

सेमिस्टर	पेपर नं.	पेपर का नाम	लेक्चर प्रत्येक/ सप्ताह	कुल पिरेड	अन्तर्गत मूल्यांकन (C.A.)	सेमिस्टर के अंक (E.S.E.)	कुल अंक	क्रिडीट
I	I	कथा साहित्य	०४	५५	३५	४०	७५	०३
II	II	नाटक तथा एकांकी	०४	५५	३५	४०	७५	०३
II	III	कथा साहित्य	०४	५५	३५	४०	७५	०३
	IV	नाटक तथा एकांकी	०४	५५	३५	४०	७५	०३

नोटः उपर्युक्त विषय के अनुसार पेपर का नाम, पेपर क्रमांक I, II, III, IV के अनुसार लेक्चर प्रत्येकसप्ताह में ०४, कुल पिरेड ५५, अन्तर्गत मूल्यांकन ३५ जिसमें दो (२) Test होंगे। प्रत्येक Test के लिए १० अंकहोंगे १०+१०=२० और १५ अंकोंका Assignment रहेगा Theory ४० अंको के लिए कुल अंक ७५ होंगे प्रत्येक पेपर के लिए क्रेडीट ०३ रहेंगे।

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

बी.ए., बी.कॉम., बी.एस्सी. द्वितीय भाषा हिन्दी (S.L.)

नवीन पाठ्यक्रम सत्र पद्धति + C.B.C.S. पॅटर्न

प्रथम सत्र (Semester-I) प्रश्नपत्र क्र. I

(साहित्य भारती)

Credits : 03

ESE – 40 Marks and CA-35 Marks) अंक : 75 **तासिका : 55**

(30 Theory + 10 MCQ)

पाठ्यक्रम :

खण्ड अ) काव्य विभाग : (अंक 5+5 संदर्भ तथा टिप्पणी विकल्प में +10 दीर्घोत्तरी = 15 अंक)

तासिका : 20

1) नये जमाने की मुकरी - भारतेंदु हरिश्चंद्र
2) नवयुवको के प्रति - मैथिलीशरण गुप्त
3) जुही की कली - निराला
4) जागरण - शिवमंगल सिंह 'सुमन'
5) जो बीत गयी सो बात गयी - हरिवंशराय बच्चन
6) यह दीप अकेला - सच्चिदानंद हीरानंद वात्सायन 'अज्ञेय'

खण्ड ब) कहानी विभाग : (अंक 5+5 संदर्भ तथा टिप्पणी विकल्प में +10 दीर्घोत्तरी = 15 अंक)

तासिका : 20

1) नशा - प्रेमचंद
2) त्रिवेणी - जैनंद्रकुमार
3) शरणदाता - सच्चिदानंद हीरानंद वात्सायन 'अज्ञेय'
4) सच बोलने की भूल - यशपाल
5) एष धर्म : सनातन : - भीष्म साहनी
6) लड़की की शादी - अमरकांत

खण्ड क) प्रयोजनमूलक हिन्दी **तासिका : 05**

1) पारिभाषिक शब्दावली (100 शब्द)
(बैंक, बीमा, वाणिज्य, जनसंचार माध्यम, विज्ञान, कार्यालय, विधि, चिकित्सा, तथा संगणक से संबंधित)

***उपर्युक्त संपूर्ण पाठयक्रमपर 10 M.C.Q. प्रश्न पूछे जाएंगे = अंक 10**

खण्ड ड) अंतर्गत मूल्यांकन (C.A.) (अंक 35) **तासिका : 10**

निम्नलिखित घटकों पर आधारित होगा।

1) कक्षा में 10 - 10 अंकों के दो टेस्ट होंगे ।
2) 15 अंकों का स्वाध्याय लेखन (Assignment) रहेगा।

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

बी.ए., बी.कॉम., बी.एस्सी. द्वितीय भाषा हिन्दी (S.L.)

नवीन पाठ्यक्रम सत्र पद्धति + C.B.C.S. पॅटर्न

द्वितीय सत्र (Semester-II) प्रश्नपत्र क्र.II

(साहित्य भारती)

Credits : 03

ESE – 40 Marks and CA-35 Marks) अंक : 75 **तासिका : 55**

(30 Theory + 10 MCQ)

पाठ्यक्रम :

खण्ड अ) काव्य विभाग : (अंक 5+5 संदर्भ तथा टिप्पणी विकल्प में +10 दीर्घोत्तरी = 15 अंक)

तासिका : 20

1) घिन तो नहीं आती हैं ? - नागार्जुन
2) लोग टूट जाते हैं (गज़ल) - बशीर बद्र
3) श्रेष्ठ - ओमप्रकाश वाल्मिकि
4) जानकी जान गई है - सुशीला टाकभौरे
5) पासे सभी पलट गये - कवि प्रदीप
6) क्या तुम जानते हो ? - निर्मला पुतुल

खण्ड ब) कहानी विभाग : (अंक 5+5 संदर्भ तथा टिप्पणी विकल्प में +10 दीर्घोत्तरी = 15 अंक)

तासिका : 20

1) रसप्रिया - फणीश्वरनाथ रेणु
2) सुमेर - राहुल सांकृत्यायन
3) स्त्री सुबोधिनी - मन्नू भंडारी
4) ललमनियाँ - मैत्रेयी पुष्पा
5) नेलकटर - उदय प्रकाश
6) ऐ गंगा तुम बहती हो क्यूँ ? - विवेक मिश्र

खण्ड क) प्रयोजनमूलक हिन्दी **तासिका : 05**

अ) संवाद लेखन : सैद्धांतिक तथा व्यावहारिक पक्ष

ब) विज्ञापन लेखन : सैद्धांतिक तथा व्यावहारिक पक्ष

***उपर्युक्त संपूर्ण पाठयक्रमपर 10 M.C.Q. प्रश्न पूछे जाएंगे = अंक 10**

खण्ड ड) अंतर्गत मूल्यांकन (C.A.) (अंक 35) **तासिका : 10**

निम्नलिखित घटकों पर आधारित होगा।

1) कक्षा में 10 - 10 अंकों के दो टेस्ट होंगे ।

2) 15 अंकों का स्वाध्याय लेखन (Assignment) रहेगा।

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

बी.ए. प्रथम वर्ष ऐच्छिक हिंदी

नूतन पाठ्यक्रम सत्र पद्धति + C.B.C.S. पॅटर्न

प्रथम सत्र (Semester-I) प्रश्नपत्र क्र. I

(कथा साहित्य)

Credits : 03

ESE – 40 Marks and CA-35 Marks) अंक : 75 **तासिका : 55**

(30 Theory + 10 MCQ)

पाठ्यक्रम

खण्ड अ) उपन्यास विधा - (अंक 05) **तासिका : 10**

सैद्धांतिक विवेचन परिभाषा, विकास, तत्त्व

खण्ड ब) उपन्यास - (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोत्तरी) **तासिका : 20**

मुक्तिपर्व : मोहनदास नैमिशराय (अनुराग प्रकाशन, दरियागंज, नई दिल्ली)

खण्ड क) कहानियाँ - (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोत्तरी) **तासिका : 15**

1) मंत्र 1 - प्रेमचंद
2) आकाशदिप - जयशंकर प्रसाद
3) मक्रिल - यशपाल
4) ग्रैग्रीन - अज्ञेय
5) आखिरी सामान - मोहन राकेश
6) ऊपर उठता हुआ मकान - कमलेश्वर

***उपर्युक्त संपूर्ण पाठयक्रमपर 10 M.C.Q. प्रश्न पूछे जाएंगे = अंक 10**

खण्ड ड) अंतर्गत मूल्यांकन (C.A.) (अंक 35) **तासिका : 10**

निम्नलिखित घटकों पर आधारित होगा।

1) कक्षा में 10 - 10 अंकों के दो टेस्ट होंगे ।
2) 15 अंकों का स्वाध्याय लेखन (Assignment) रहेगा।

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

बी.ए. प्रथम वर्ष ऐच्छिक हिंदी

नूतन पाठ्यक्रम सत्र पद्धति + C.B.C.S. पॅटर्न

प्रथम सत्र (Semester-I) प्रश्नपत्र क्र. II

(नाटक तथा एकांकी)

Credits : 03

ESE – 40 Marks and CA-35 Marks) अंक : 75 **तासिका : 55**

(30 Theory + 10 MCQ)

पाठ्यक्रम :

खण्ड अ) एकांकी विधा : (अंक 05) **तासिका : 10**

परिचय, तत्त्व तथा इतिहास

खण्ड ब) नाटक : (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोत्तरी) **तासिका : 20**

लढ़ाई - सर्वेश्वर दयाल सक्सेना (वाणी प्रकाशन, दरियागंज, नई दिल्ली)

खण्ड क) एकांकी : (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोतरी) **तासिका : 15**

1) परिचय - लक्ष्मीनारायण लाल
2) कँवारी धरती - मोहन राकेश
3) जान से प्यारे - ममता कालीया
4) समरथ को नहीं दोष गुसाई - सफदर हाश्मी

***उपर्युक्त संपूर्ण पाठयक्रमपर 10 M.C.Q. प्रश्न पूछे जाएंगे = अंक 10**

खण्ड ड) अंतर्गत मूल्यांकन (C.A.) (अंक 35) **तासिका : 10**

निम्नलिखित घटकों पर आधारित होगा।

1) कक्षा में 10 - 10 अंकों के दो टेस्ट होंगे ।
2) 15 अंकों का स्वाध्याय लेखन (Assignment) रहेगा।

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

बी.ए. प्रथम वर्ष ऐच्छिक हिंदी

नूतन पाठ्यक्रम सत्र पद्धति + C.B.C.S. पॅटर्न

द्वितीय सत्र (Semester-II) प्रश्नपत्र क्र. III

(कथा साहित्य)

Credits : 03

ESE – 40 Marks and CA-35 Marks) अंक : 75 **तासिका : 55**

(30 Theory + 10 MCQ)

पाठ्यक्रम :

खण्ड अ) कहानी विधा - (अंक 05) **तासिका : 10**

सैद्धांतिक विवेचन परिभाषा, विकास, तत्त्व

खण्ड ब) उपन्यास - (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोत्तरी) **तासिका : 20**

लौटे हुए मुसाफिर : कमलेश्वर (लोकभारती प्रकाशन, इलाहाबाद / नई दिल्ली)

खण्ड क) कहानियाँ : (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोत्तरी) **तासिका : 15**

1) मुखौटा - ममता कालिया
2) टीस - संजीव
3) मुंबई कांड - ओमप्रकाश वाल्मिकि
4) सुरंग - दयानंद बटौही
5) नारी तुम केवल सबला हो - डॉ. नीहारिका
6) धोखा - रजतरानी मीनू

***उपर्युक्त संपूर्ण पाठयक्रमपर 10 M.C.Q. प्रश्न पूछे जाएंगे = अंक 10**

खण्ड ड) अंतर्गत मूल्यांकन (C.A.) (अंक 35) **तासिका : 10**

निम्नलिखित घटकों पर आधारित होगा।

1) कक्षा में 10 - 10 अंकों के दो टेस्ट होंगे ।
2) 15 अंकों का स्वाध्याय लेखन (Assignment) रहेगा।

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

बी.ए. प्रथम वर्ष ऐच्छिक हिंदी

नूतन पाठ्यक्रम सत्र पद्धति + C.B.C.S. पॅटर्न

द्वितीय सत्र (Semester-II) प्रश्नपत्र क्र. IV

(नाटक तथा एकांकी)

Credits : 03
ESE – 40 Marks and CA-35 Marks) अंक : 75 **तासिका : 55**
(30 Theory + 10 MCQ)

पाठ्यक्रम :

खण्ड अ) नाटक विधा : (अंक 05) **तासिका : 10**

परिचय, तत्त्व तथा इतिहास

खण्ड ब) नाटक : (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोत्तरी) **तासिका : 20**

सुनो शेफाली - कुसूम कुमार (किताब घर प्रकाशन, दरियागंज, नई दिल्ली)

खण्ड क) एकांकी : (अंक 05 संदर्भ विकल्प के साथ + 10 दीर्घोत्तरी) **तासिका : 15**

1) गुनाहों की सजा - कर्मशील भारती
2) समर्पित जीवन - सुशिला टाकभौरे
3) दहाड उठा था सिंह - अनिता भारती
4) वारिस - अशोक कुमार

***उपर्युक्त संपूर्ण पाठयक्रमपर 10 M.C.Q. प्रश्न पूछे जाएंगे = अंक 10**

खण्ड ड) अंतर्गत मूल्यांकन (C.A.) (अंक 35) **तासिका : 10**

निम्नलिखित घटकों पर आधारित होगा।

1) कक्षा में 10 - 10 अंकों के दो टेस्ट होंगे ।
2) 15 अंकों का स्वाध्याय लेखन (Assignment) रहेगा।

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स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय,नांदेड

''**ज्ञानतीर्थ**'' विष्णुपरी, नांदेड

प्रथम वर्ष हिंदी पाठयक्रम C.B.C.S. पॅटर्न (सत्र पध्दति)

w.e.f. जून २०१६

B.A. - I Year

(स्नातक स्तर)

नवीन C.B.C.S. सत्र पध्दति पाठ्यक्रम पॅटर्न

प्रथम वर्ष हिन्दी द्वितीय भाषा S.L.&

प्रथम वर्ष ऐच्छिक I, II, III, IV

पाठ्यक्रम की रूपरेखा

प्रश्नपत्र का प्रारूप

सेमिस्टर पध्दति जून २०१६

30 Theory + 10 MCQ	= 40
2 Test 10+10	= 20
1 Assignment	= 15
Total	= 75

जून २०१६ से प्रारंभ

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष हिन्दी पाठ्यक्रम

हिन्दी द्वितीय भाषा (S.L.) (स्नातक स्तर)

बी.ए./बी.कॉम/बी.एस्सी.

पाठ्यक्रम सत्र पध्दती + C.B.C.S. पॅटर्न

w.e.f. जून २०१६

नवीन C.B.C.S. सत्र पध्दति पाठ्यक्रम

प्रथम वर्ष S.L. की रूपरेखा

(सेमिस्टर पध्दति, जून २०१६)

साहित्य भारती

सत्र-I प्रश्न पत्र-I

प्रश्नपत्र का प्रारूप २०१६-१७

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks) Periods: 55
(30 Theory)
(10 MCQ)

प्रश्न १. **ससंदर्भ व्याख्या कीजिए।** **अंक - ०५**

विकल्प के साथ संदर्भ पूछा जाएगा, जिसमें एक संदर्भ कविता पर होगा, विकल्प में कहानी पर संदर्भ होगा, दो में से एक लिखना अनिवार्य है।

प्रश्न २. **कविता पर दीर्घोत्तरी प्रश्न विकल्प साथ** **१०**

प्रश्न ३. **कहानी पर दीर्घोत्तरी प्रश्न विकल्प के साथ** **१०**

प्रश्न ४. **टिप्पणी लिखिए :** **०५**

कविता तथा कहानी पर दो टिप्पणियाँ पूछी जाएँगी, दो में से एक लिखना अनिवार्य होगा।

प्रश्न ५. **संपूर्ण पाठ्यक्रम पर १० बहुपर्यायी (MCQ) प्रश्न पुछे जाएँगे, सभी प्रश्न अनिवार्य होगे।** **१०**

नोट : विश्वविद्यालय द्वारा पाठ्यक्रम में संपादीत पुस्तक तथा प्रयोजनमूलक हिंदी (पारिभाषिक शब्दावली १०० शब्द) पर बहुपर्यायी प्रश्न होंगे ।

अंतर्गत मूल्यांकन-

३५ अंक का होगा जिसमें २ टेस्ट होंगे। प्रत्येक टेस्ट के लिए १० अंक होगे १०+१० = २० और १५ अंकों का Assignment रहेगा : **३५**

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष हिन्दी पाठ्यक्रम

हिन्दी द्वितीय भाषा (S.L.) (स्नातक स्तर)

बी.ए./बी.कॉम/बी.एस्सी.

पाठ्यक्रम सत्र पध्दती + C.B.C.S. पॅटर्न

w.e.f. जून २०१६

नवीन C.B.C.S. सत्र पध्दति पाठ्यक्रम

प्रथम वर्ष S.L. की रूपरेखा

(सेमिस्टर पध्दति, जून २०१६)

साहित्य भारती

सत्र-II प्रश्न पत्र-II

प्रश्नपत्र का प्रारूप २०१६-१७

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks) Periods: 55
(30 Theory)+
(10 MCQ)

प्रश्न १. **ससंदर्भ व्याख्या कीजिए।** **अंक - ०५**

विकल्प के साथ संदर्भ पूछा जाएगा, जिसमें एक संदर्भ कविता पर होगा, विकल्प में कहानी पर संदर्भ होगा, दो में से एक लिखना अनिवार्य है।

प्रश्न २. **कविता पर दीर्घोत्तरी प्रश्न विकल्प साथ** **१०**

प्रश्न ३. **कहानी पर दीर्घोत्तरी प्रश्न विकल्प के साथ** **१०**

प्रश्न ४. **टिप्पणी लिखिए :** **०५**

कविता तथा कहानी पर दो टिप्पणियाँ पूछी जाएँगी, दो में से एक लिखना अनिवार्य होगा।

प्रश्न ५. **संपूर्ण पाठ्यक्रम पर १० बहुपर्यायी (MCQ) प्रश्न पुछे जाएँगे, सभी प्रश्न अनिवार्य होगे।** **१०**

नोट : विश्वविद्यालय द्वारा पाठ्यक्रम में संपादीत पुस्तक तथा प्रयोजनमूलक हिंदी पर बहुपर्यायी प्रश्न होंगे ।

अंतर्गत मूल्यांकन-

३५ अंक का होगा जिसमें २ टेस्ट होंगे। प्रत्येक टेस्ट के लिए १० अंक होगे १०+१० = २० और १५ अंकों का Assignment रहेगा : **३५**

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष हिन्दी पाठ्यक्रम

हिन्दी ऐच्छिक (स्नातक स्तर) बी.ए. प्रथम वर्ष

पाठ्यक्रम सत्र पध्दती + C.B.C.S. पॅटर्न

w.e.f. जून २०१६

नवीन C.B.C.S. सत्र पध्दति पाठ्यक्रम

प्रथम वर्ष ऐच्छिक विषय की रूपरेखा

(सेमिस्टर पध्दति, जून २०१६)

कथा साहित्य

सत्र-I प्रश्न पत्र-I

प्रश्नपत्र का प्रारूप २०१६-१७

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks) Periods: 55
(30 Theory)+
(10 MCQ)

प्रश्न १.	**ससंदर्भ व्याख्या कीजिए।**	**अंक - ०५**
	विकल्प के साथ संदर्भ पूछा जाएगा, जिसमें एक संदर्भ उपन्यास पर होगा, विकल्प में कहानी पर संदर्भ होगा, दो में से एक लिखना अनिवार्य है।	
प्रश्न २.	**उपन्यास पर दीर्घोत्तरी प्रश्न विकल्प साथ**	**१०**
प्रश्न ३.	**कहानी पर दीर्घोत्तरी प्रश्न विकल्प के साथ**	**१०**
प्रश्न ४.	**टिप्पणी लिखिए :**	**०५**
	१) उपन्यास विधी सैध्दांतिक विवेचन-परिभाषा, विकास विकल्प उपन्यास के तत्वों का विवेचन कीजिए	
प्रश्न ५.	**संपूर्ण पाठ्यक्रम पर १० बहुपर्यायी (MCQ) प्रश्न पुछे जाएँगे, सभी प्रश्न अनिवार्य होगे।**	**१०**

अंतर्गत मूल्यांकन -

३५ अंक का होगा जिसमें २ टेस्ट होंगे प्रत्येक टेस्ट के लिए १० अंक होगे १०+१० =२० और १५ अंकों का Assignment रहेगा : **३५**

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष हिन्दी पाठ्यक्रम

हिन्दी ऐच्छिक (स्नातक स्तर) बी.ए. प्रथम वर्ष

पाठ्यक्रम सत्र पध्दती + C.B.C.S. पॅटर्न

w.e.f. जून २०१६

नवीन C.B.C.S. सत्र पध्दति पाठ्यक्रम

प्रथम वर्ष ऐच्छिक विषय की रूपरेखा

(सेमिस्टर पध्दति, जून २०१६)

कथानंद / कथा साहित्य

सत्र-II प्रश्न पत्र-III

प्रश्नपत्र का प्रारूप २०१६-१७

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks) Periods: 55
(30 Theory)+
(10 MCQ)

प्रश्न १. **ससंदर्भ व्याख्या कीजिए।** **अंक - ०५**
विकल्प के साथ संदर्भ पूछा जाएगा, जिसमें एक संदर्भ उपन्यास पर होगा, विकल्प में कहानी पर संदर्भ होगा, दो में से एक लिखना अनिवार्य है।

प्रश्न २. **उपन्यास पर दीर्घोत्तरी प्रश्न विकल्प साथ** **१०**

प्रश्न ३. **कहानी पर दीर्घोत्तरी प्रश्न विकल्प के साथ** **१०**

प्रश्न ४. **टिप्पणी लिखिए :** **०५**
१) कहानी विधी सैध्दांतिक विवेचन-परिभाषा, विकास
विकल्प के साथ पुछे जाएँगे

प्रश्न ५. **संपूर्ण पाठ्यक्रम पर १० बहुपर्यायी (MCQ) प्रश्न पुछे जाएँगे, सभी प्रश्न अनिवार्य होगे।** **१०**

अंतर्गत मूल्यांकन -

३५ अंक का होगा जिसमें २ टेस्ट होंगे प्रत्येक टेस्ट के लिए १० अंक होगे १०+१० =२० और १५ अंकों का Assignment रहेगा : **३५**

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष हिन्दी पाठ्यक्रम

हिन्दी ऐच्छिक (स्नातक स्तर) बी.ए. प्रथम वर्ष

पाठ्यक्रम सत्र पध्दती + C.B.C.S. पॅटर्न

w.e.f. जून २०१६

नवीन C.B.C.S. सत्र पध्दति पाठ्यक्रम

प्रथम वर्ष ऐच्छिक विषय की रूपरेखा

(सेमिस्टर पध्दति, जून २०१६)

नाटक तथा एकांकी

सत्र-I प्रश्न पत्र-II

प्रश्नपत्र का प्रारूप २०१६-१७

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks) Periods: 55
(30 Theory)+
(10 MCQ)

प्रश्न १. **ससंदर्भ व्याख्या कीजिए।** **अंक - ०५**
विकल्प के साथ संदर्भ पूछा जाएगा, जिसमें एक संदर्भ नाटक पर होगा, विकल्प में एकांकी पर संदर्भ होगा, दो में से एक लिखना अनिवार्य है।

प्रश्न २. **नाटक पर दीर्घोत्तरी प्रश्न विकल्प साथ** **१०**

प्रश्न ३. **एकांकी पर दीर्घोत्तरी प्रश्न विकल्प के साथ** **१०**

प्रश्न ४. **टिप्पणी लिखिए :** **०५**
एकांकी विधा, परिचय तत्व तथा इतिहास पर दो टिप्पनियाँ पूछी जाएँगी, दो में से एक लिखना अनिवार्य होगा।

प्रश्न ५. **संपूर्ण पाठ्यक्रम पर १० बहुपर्यायी (MCQ) प्रश्न पुछे जाएँगे, सभी प्रश्न अनिवार्य होगे।** **१०**

नोट : विश्वविद्यालय द्वारा पाठ्यक्रम में संपादीत पुस्तक नाटक तथा एकांकी संकलन पाठ्यपुस्तक पर बहुपर्यायी प्रश्न पुछे जाएँगे।

अंतर्गत मूल्यांकन -

३५ अंक का होगा जिसमें २ टेस्ट होंगे प्रत्येक टेस्ट के लिए १० अंक होगे १०+१० =२० और १५ अंकों का Assignment रहेगा : **३५**

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

प्रथम वर्ष हिन्दी पाठ्यक्रम

हिन्दी ऐच्छिक (स्नातक स्तर) बी.ए. प्रथम वर्ष

पाठ्यक्रम सत्र पध्दती + C.B.C.S. पॅटर्न

w.e.f. जून २०१६

नवीन C.B.C.S. सत्र पध्दति पाठ्यक्रम

प्रथम वर्ष ऐच्छिक विषय की रूपरेखा

(सेमिस्टर पध्दति, जून २०१६)

नाटक तथा एकांकी

सत्र-II प्रश्न पत्र-IV

प्रश्नपत्र का प्रारूप २०१६-१७

Credits: 03 (Marks-75)
ESE-40 Marks and CA-35 Marks) Periods: 55
(30 Theory)+
(10 MCQ)

प्रश्न १. **ससंदर्भ व्याख्या कीजिए।** **अंक - ०५**
विकल्प के साथ संदर्भ पूछा जाएगा, जिसमें एक संदर्भ नाटक पर होगा, विकल्प में एकांकी पर संदर्भ होगा, दो में से एक लिखना अनिवार्य है।

प्रश्न २. **नाटक पर दीर्घोत्तरी प्रश्न विकल्प साथ** **१०**

प्रश्न ३. **एकांकी पर दीर्घोत्तरी प्रश्न विकल्प के साथ** **१०**

प्रश्न ४. **टिप्पणी लिखिए :** **०५**
नाटक विधा, परिचय तत्व तथा इतिहास पर दो टिप्पनियाँ पूछी जाएँगी, दो में से एक लिखना अनिवार्य होगा।

प्रश्न ५. **संपूर्ण पाठ्यक्रम पर १० बहुपर्यायी (MCQ) प्रश्न पुछे जाएँगे, सभी प्रश्न अनिवार्य होगे।** **१०**

नोट : विश्वविद्यालय द्वारा पाठ्यक्रम में संपादीत पुस्तक नाटक तथा एकांकी संकलन पाठ्यपुस्तक पर बहुपर्यायी प्रश्न पुछे जाएँगे।

अंतर्गत मूल्यांकन -

३५ अंक का होगा जिसमें २ टेस्ट होंगे प्रत्येक टेस्ट के लिए १० अंक होगे १०+१० =२० और १५ अंकों का Assignment रहेगा : **३५**

* * * * *

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३० एप्रिल २०१९ रोजी संपन्न झालेल्या ४३व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.५/४३–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

१) बी.ए.–प्रथम वर्ष–इंग्रजी (अनिवार्य, अतिरिक्त (द्वितीय भाषा), फंक्शनल इंग्रजी, ऐच्छिक)
२) बी.ए.–प्रथम वर्ष–हिंदी (द्वितीय भाषा, ऐच्छिक)
३) बी.ए.–प्रथम वर्ष–मराठी (द्वितीय भाषा, ऐच्छिक)
४) बी.ए.–प्रथम वर्ष–पाली (द्वितीय भाषा, ऐच्छिक)
५) बी.ए.–प्रथम वर्ष–संस्कृत (द्वितीय भाषा, ऐच्छिक)
६) बी.ए.–प्रथम वर्ष–उर्दू (द्वितीय भाषा, ऐच्छिक)
७) बी.ए.–प्रथम वर्ष–अर्थशास्त्र
८) बी.ए.–प्रथम वर्ष–भूगोल
९) बी.ए.–प्रथम वर्ष–इतिहास
१०) बी.ए.–प्रथम वर्ष–सैनिकशास्त्र
११) बी.ए.–प्रथम वर्ष–तत्त्वज्ञान
१२) बी.ए.–प्रथम वर्ष–राज्यशास्त्र
१३) बी.ए.–प्रथम वर्ष–मानसशास्त्र
१४) बी.ए.–प्रथम वर्ष–लोकप्रशासन
१५) बी.ए.–प्रथम वर्ष–समाजशास्त्र
१६) बी.ए.–प्रथम वर्ष–ॲडमिनिस्ट्रेटीव्ह सर्व्हिस

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/**६६**
दिनांक : १७.०६.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड
'ज्ञानतीर्थ' विष्णुपुरी, नांदेड

पदवी प्रथम वर्ष हिन्दी पाठ्यक्रम

नवीन सत्र पध्दती + C.B.C.S. पॅटर्न

स्नातक स्तर

जून २०१९ से प्रारंभ

स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय, नांदेड

स्नातक प्रथम वर्ष पाठ्यक्रम तथा कार्यभार वितरण

विषय : हिंदी (बी.ए.,बी.कॉम.,बी.एससी.एवं अन्य स्नातक प्रथम वर्ष के लिए)

श्रेयांक पध्दति (CBCS Pattern) पाठ्यक्रम

हिंदी ऐच्छिक और द्वितीय भाषा (Second Language)

शैक्षणिक वर्ष : २०१९-२० (जून २०१९ से आरंभ)

सत्र (Semester)	प्रश्नपत्र क्र (Paper No.)	प्रश्नपत्र का नाम (Name of the Paper)	सप्ताह की तासिका (Periods of Week)	पूर्ण तासिकाएँ (Total Periods)	निरंतर मूल्यांकन (CA)	सत्रांत परीक्षा (ESE)	कुल अंक (Total Marks)	श्रेयांक (Credits)
प्रथम सत्र I	I	कथा साहित्य	04	55	35	40	75	03
	II	नाटक तथा एकांकी	04	55	35	40	75	03
	S.L.I	साहित्य भारती (SL)	04	55	35	40	75	03
		Total = I	12	165	105	120	225	09
द्वितीय सत्र II	III	कथा साहित्य	04	55	35	40	75	03
	IV	नाटक तथा एकांकी	04	55	35	40	75	03
	S.L.II	साहित्य भारती (S.L.)	04	55	35	40	75	03
		Total = II	**12**	**165**	**105**	**120**	**225**	**09**
		Total = I+II	**24**	**330**	**210**	**240**	**450**	**18**

कथा साहित्य

उद्देश्य :

१) हिंदी साहित्य की कहानी और उपन्यास विधा से छात्रों को परिचित कराना।

२) कथा साहित्य की लेखन शैली से परिचित कराना।

३) कथा साहित्य के माध्यम से छात्रों की चिंतन तथा लेखन कौशल की क्षमता को विकसित करना।

४) विविध पात्रों की मानसिकता एवं क्रिया कलापों से छात्रों में सही और गलत को परखने की क्षमता विकसित करना।

५) कथा साहित्य के माध्यम से छात्रों को विविध समस्याओं से अवगत कर उन समस्याओं के समाधान के लिए उन्हें प्रेरित करना।

महत्व :

मनुष्य के जीवन में कथाओं की परंपरा का महत्वपूर्ण स्थान रहा है। आज हिंदी कथा साहित्य में कहानी और उपन्यास विधा मनुष्य की बौध्दिक तथा मानसिक क्षमता को परिष्कृत कर उन्हें समाज एवं राष्ट्रहित की ओर प्रेरित करने में महत्वपूर्ण भूमिका निभा रही है। युवा शक्ती को राष्ट्र विकास के लिए महत्वपूर्ण माना जाता है। अत: कहानी और उपन्यास के अध्ययन से एक ओर छात्रों को रचनाकारों की लेखन शैली का ज्ञान होता है तो दूसरी ओर कथा साहित्य में वर्णित विविध समस्याओं की जानकारी मिलती है और उन समस्याओं के समाधान के लिए एक निश्चित दिशा मिलती है। कथा साहित्य छात्रों को नैतिक मूल्यों की रक्षा कर उन्हें प्रचारित करने के लिए प्रेरित करता है। इतना ही नही तो उनमें उचित अनुचित को परखने की क्षमता निर्माण करता है।

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
बी.ए. प्रथम वर्ष ऐच्छिक हिंदी
नूतन पाठ्यक्रम सत्र पध्दति + C.B.C.S. पॅटर्न
प्रथम सत्र (Semester I) प्रश्नपत्र क्र. I
(कथा साहित्य)

Credits : 03
ESE-40 Marks and C.A. 35 Marks = अंक ७५ **तासिका : ५५**

पाठ्यक्रम

खण्ड क) उपन्यास तासिका : २५
खंजन नयन : अमृतलाल नागर : राजपाल एण्ड सन्स, कश्मिरी गेट, दिल्ली

खण्ड ख) कहानियाँ तासिका : २०

१) उसने कहा था	चंद्रधर शर्मा गुलेरी
२) सुजान भगत	प्रेमचंद
३) पुरस्कार	जयशंकर प्रसाद
४) खेल	जैनेंद्रकुमार
५) मलबे का मालिक	मोहन राकेश
६) गेंद	चित्रा मुद्गल

खण्ड ग) अंतर्गत मूल्यांकन (C.A.) अंक : ३५ तासिका: १०
१) कक्षा परीक्षा २ (१०+१०)अंक २०
२) स्वाध्याय अंक १५

प्रश्नपत्र का प्रारूप :

प्रश्न १ उपन्यास पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न २ कहानियों पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न ३ टिप्पणी :
क) उपन्यास पर विकल्प के साथ टिप्पणी अंक : ०५
ख) कहानियों पर विकल्प के साथ टिप्पणी अंक : ०५

४०
अंतर्गत मूल्यांकन : ३५

कुल अंक ७५

नाटक तथा एकांकी

उद्देश्य :

१) नाटक और एकांकी विधा से परिचित करना।

२) नाटक के प्रति छात्रों में रूचि उत्पन्न करना ।

३) संवाद लेखन-वाचन कौशल का विकास करना।

४) रंगमंच से संबंधित जानकारी छात्रों को देना ।

५) अभिनय के प्रति आकर्षण निर्माण करना।

महत्व :

नाटक और एकांकी दृक-श्राव्य माध्यम की अत्यंत प्राचीन साहित्य विधा है। जिसमें भाव-भावना और विचारों का प्रतिपादन पात्राभिनय द्वारा होता है। इस विधा ने कई महत्वपूर्ण ऐतिहासिक तथ्य और युगपुरूषों की जीवनियों को युगानूरूप प्रस्तुत किया है। दृक-श्राव्य विधा होने के कारण दर्शकों को रसानुभूति दिलाने में सहायता करती है। भारतेंदू तथा उनके समकालीन नाटककारों ने लोकचेतना के विकास के लिए नाटक और एकांकियों का निर्माण किया। सामाजिक समस्याओं की अभिव्यक्ति करने का एक सशक्त और प्रभावी माध्यम नाटक और एकांकी है। इनके अध्ययन से मनोरंजन के साथ अभिनय और लेखन के क्षेत्र में रोजगार की उपलब्धि भी होती है।

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
बी.ए. प्रथम वर्ष ऐच्छिक हिंदी
नूतन पाठ्यक्रम सत्र पध्दति + C.B.C.S. पॅटर्न
प्रथम सत्र (Semester I) प्रश्नपत्र क्र. II
(नाटक तथा एकांकी)

Credits : 03
ESE-40 Marks and C.A. 35 Marks = अंक ७५ **तासिका : ५५**

पाठ्यक्रम

खण्ड क) नाटक तासिका : २५
धरती आबा : ऋषिकेश सुलभ : राजकमल प्रकाशन, प्रा.लि.
नेताजी सुभाष मार्ग, नई दिल्ली

खण्ड ख) एकांकी तासिका : २०
१) सीमा रेखा विष्णु प्रभाकर
२) पृथ्वीराज की आँखे (भाग २)डॉ. रामकुमार वर्मा
३) अशोक वन लक्ष्मीनारायण मिश्र
४) नये मेहमान उदयशंकर भट्ट
५) रीड की हड्डी जगदीशचंद्र माथुर

खण्ड ग) अंतर्गत मूल्यांकन (C.A.) अंक : ३५ तासिका: १०
१) कक्षा परीक्षा २(१०+१०)अंक २०
२) स्वाध्याय अंक १५

प्रश्नपत्र का प्रारूप :

प्रश्न १ नाटक पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न २ एकांकियों पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न ३ टिप्पणी :
क) नाटक पर विकल्प के साथ टिप्पणी अंक : ०५
ख) एकांकियों पर विकल्प के साथ टिप्पणी अंक : ०५

४०
अंतर्गत मूल्यांकन : ३५

कुल अंक ७५

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
बी.ए. प्रथम वर्ष ऐच्छिक हिंदी
नूतन पाठ्यक्रम सत्र पध्दति + C.B.C.S. पॅटर्न
द्वितीय सत्र (Semester II) प्रश्नपत्र क्र. III
(कथा साहित्य)

Credits : 03
ESE-40 Marks and C.A. 35 Marks = अंक ७५ **तासिका : ५५**

पाठ्यक्रम

खण्ड क) उपन्यास तासिका : २५
पचपन खंबे लाल दिवारे : उषा प्रियवंदा
राजकमल प्रकाशन, नई दिल्ली

खण्ड ख) कहानियाँ तासिका : २०
१) निर्वासित सूर्यबाला
२) कोसी का घटवार शेखर जोशी
३) गृह प्रवेश शालीनी
४) अकाल मृत्यु स्वयंप्रकाश
५) सबसे कठीन काम मधु कांकरिया
६) साहब फिर कब आएंगे माँ ? दामोदर खडसे

खण्ड ग) अंतर्गत मूल्यांकन (C.A.) अंक : ३५ तासिका: १०
१) कक्षा परीक्षा २ (१०+१०) अंक १०
२) स्वाध्याय अंक १५

प्रश्नपत्र का प्रारूप :

प्रश्न १ उपन्यास पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न २ कहानियों पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न ३ टिप्पणी :
क) उपन्यास पर विकल्प के साथ टिप्पणी अंक : ०५
ख) कहानियों पर विकल्प के साथ टिप्पणी अंक : ०५

४०
अंतर्गत मूल्यांकन : ३५

कुल अंक ७५

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
बी.ए. प्रथम वर्ष ऐच्छिक हिंदी
नूतन पाठ्यक्रम सत्र पध्दति + C.B.C.S. पॅटर्न
द्वितीय सत्र (Semester II) प्रश्नपत्र क्र. IV
(नाटक तथा एकांकी)

Credits : 03
ESE-40 Marks and C.A. 35 Marks = अंक ७५ **तासिका : ५५**

पाठ्यक्रम

खण्ड क) नाटक तासिका : २५
अभंग गाथा : नरेंद्र मोहन : जगतराम एण्ड सन्स, ९/२३१
मेन रोड, गांधी नगर, दिल्ली-११००३१

खण्ड ख) एकांकी तासिका : २०

१) कालपुरूष और अजन्ता की नर्तकी	लक्ष्मीनारायण लाल
२) चरवाहे	उपेन्द्रनाथ अश्क
३) बहू की बिदा	विनोद रस्तोगी
४) बा और बापू	रामनरेश त्रिपाठी
५) शहादत	रंगनाथ तिवारी

खण्ड ग) अंतर्गत मूल्यांकन (C.A.) अंक : ३५ तासिका: १०
१) कक्षा परीक्षा २ (१०+१०) अंक २०
२) स्वाध्याय अंक १५

प्रश्नपत्र का प्रारूप :

प्रश्न १ नाटक पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न २ एकांकियों पर पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न ३ टिप्पणी :
क) नाटक पर विकल्प के साथ टिप्पणी अंक : ०५
ख) एकांकियों पर विकल्प के साथ टिप्पणी अंक : ०५

४०
अंतर्गत मूल्यांकन : ३५

कुल अंक ७५

साहित्य भारती S.L.

उद्देश :

१) द्वितीय भाषा के रूप में छात्रों को हिंदी भाषा और साहित्य का सामान्य परिचय देना।

२) कालानुरूप कहानी और काव्य में आये परिवर्तन को समझना।

३) कहानी और काव्य के माध्यम से छात्रों को परिष्कृत करना।

४) छात्रों को हिंदी के व्यव्हारिक ज्ञान से अवगत कराना।

५) हिंदी भाषा के प्रति छात्रों में रूचि उत्पन्न करना।

६) रचनाओं में व्यक्त समस्याओं के समाधान के लिए छात्रों को प्रेरित कर नैतिक मूल्यों को स्थापित करना।

महत्व :

साहित्य जीवन का पथदर्शक है। वह मनुष्य के जीवन में सकारात्मक और रचनात्मक परिवर्तन लाने की क्षमता रखता है। इस दृष्टि से सामान्य हिंदी का अध्ययन कर विविध संकायों में पढ रहे छात्रों में हिंदी भाषा एवं साहित्य के प्रति रूचि उत्पन्न होती है। उन्हें व्यव्हारिक हिंदी का ज्ञान प्राप्त होता है । इतना ही नही तो हिंदी कहानियाँ और कविताएँ उनके मन मस्तिष्क को परिष्कृत करने में साह्यता करती है। वे पठित रचनाओं के माध्यम से विविध समस्याओं से परिचित हो जाते है। और उन समस्याओं के समाधान के लिए प्रयासरत रहते है।

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
बी.ए., बी.कॉम., बी.एस्सी. प्रथम वर्ष द्वितीय भाषा हिंदी (SL)
नूतन पाठ्यक्रम सत्र पध्दति + C.B.C.S. पॅटर्न
प्रथम सत्र (Semester I) प्रश्नपत्र क्र. I
(साहित्य भारती)

Credits : 03
ESE-40 Marks and C.A. 35 Marks = अंक ७५ **तासिका : ५५**

पाठ्यक्रम

खण्ड क) कहानी विभाग तासिका : २०

१) एक टोकरीभर मिट्टी माधवराव सप्रे
२) ठाकूर का कुआ प्रेमचंद
३) ममता जयशंकर प्रसाद
४) गुलकी बन्नो धर्मवीर भारती
५) ढाई बीघा जमीन मृदुला सिन्हा
६) शिक्का बदल गया कृष्णा सोबती

खण्ड ख) काव्य विभाग तासिका : २०

१) बाँधो न नाव इस ठाँव बंधु निराला
२) सखी, वे मुझसे कहकर जाते मैथिलीशरण गुप्त
३) वीरों का कैसा हो बसंत सुभद्राकुमारी चौहान
४) हरि घाँस पर क्षण भर अज्ञेय
५) प्याला हरिवंशराय बच्चन
६) गीत नया गाता हूँ अटल बिहारी वाजपेयी

खण्ड ग) प्रयोजनमूलक हिंदी तासिका: ०५
वृत्तांत लेखन : प्रारुप और उदाहरण

खण्ड घ) अंतर्गत मूल्यांकन (C.A.) अंक ३५ तासिका १०

१) कक्षा परीक्षा २ (१०+१०) अंक २०
२) स्वाध्याय अंक १५

प्रश्नपत्र का प्रारूप :

प्रश्न १ कहानी पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न २ काव्य पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न ३ खण्ड ग विकल्प के साथ प्रश्न अंक : १०

४०
अंतर्गत मूल्यांकन : ३५

कुल अंक ७५

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
बी.ए., बी.कॉम., बी.एस्सी. प्रथम वर्ष द्वितीय भाषा हिंदी (SL)
नूतन पाठ्यक्रम सत्र पध्दति + C.B.C.S. पॅटर्न
द्वितीय सत्र (Semester II) प्रश्नपत्र क्र. II
(साहित्य भारती)

Credits : 03
ESE-40 Marks and C.A. 35 Marks = अंक ७५ **तासिका : ५५**

पाठ्यक्रम

खण्ड क) कहानी विभाग तासिका : २०

१) शैलेश मटियानी — उसने तो नहीं कहा था
२) आशिर्वाद — सुषमासिंह
३) जरा समझो — सुशीला टाकभोरे
४) बेठन — निरजा माधव
५) मंडन मिसिर की खुरपि — सूर्यनाथ सिंह
६) हत्या — बरखा शर्मा

खण्ड ख) काव्य विभाग तासिका : २०

१) यह वह भारतवर्ष नही — उदय प्रताप
२) माँ के लिए ससुराल जाने से पहले — निर्मला पुतुल
३) जब भी औरत ने अपनी सीमा-रेखा को पार किया — जहिर कुरेशी
४) चुनाव — अनुजप्रतापसिंह
५) सपना — कर्मानंद आर्य
६) मारे जाएंगे — राजेश जोशी

खण्ड ग) प्रयोजनमूलक हिंदी तासिका: ०५

पत्र लेखन : स्वरूप एवं प्रारुप, आवेदनपत्र, पारिवारिक पत्र

खण्ड घ) अंतर्गत मूल्यांकन (C.A.) अंक ३५ तासिका १०

७) कक्षा परीक्षा २ (१०+१०) अंक २०
८) स्वाध्याय अंक १५

प्रश्नपत्र का प्रारूप :

प्रश्न १ कहानी पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न २ काव्य पर विकल्प के साथ दीर्घोत्तरी प्रश्न अंक : १५
प्रश्न ३ खण्ड 'ग' विकल्प के साथ प्रश्न अंक : १०

* * * * *

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
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Fax : (02462) 229574
Website: www.srtmun.ac.in
E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. -III Year- Marathi
02. B. A.- III Year- Hindi
03. B. A. - III Year- English
04. B. A. -III Year- Urdu
05. B. A. - III Year- Sanskrit
06. B. A. -III Year- Pali
07. B. A. - III Year- Kannada
08. B. A.- III Year- Economics
09. B. A.- III Year- Policital Science
10. B. A.- III Year- Sociology
11. B. A.- III Year- Philosophy
12. B. A.- III Year- Geography
13. B. A. -III Year – Psychology
14. B. A. - III **Year History**
15. B. A.-III Year- Public Administration
16. B. A.- III Year- Military Science
17. B. A.-III Year- Administrative Services

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/८७
दिनांक : २४.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

Swami Ramanand Teerth Marathwada University, Nanded

SYLLABUS

History

B. A. Third Year

Semester V & VI

Semester Pattern

(Choice Based Credit System)

(With Effective from Academic Year 2021-2022)

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year, Semester V and VI

Semester Pattern 2021-2022

(Choice Based Credit System)

Semester	Core Course	Paper No.	Name of Paper	Lecture /week	Total No. of Lectures	CA	ESE	Total Marks	Credits
V	DSE HIS-I	IX	History of Modern India (1857A.D. to 1947 A.D.) **OR** Landmarks of World History	4	55	25	50	75	03
	DGE HIS-II	X	Social Reformers in Maharashtra & Awakening Movements	4	55	25	50	75	03
	SEC	III	Appreciation of Indian Art	3	45	25	25	50	02
	Total			**11**	**155**	**75**	**125**	**200**	**08**
VI	DSE HIS-II	XI	History of Modern India (1857A.D. to 1947 A.D.) **OR** Landmarks of World History	4	55	25	50	75	03
	DGE HIS-II	XII	Social Reformers in Maharashtra & Awakening Movements	4	55	25	50	75	03
	SEC	IV	Appreciation of Indian Art	3	45	25	25	50	02
	Total			**11**	**155**	**75**	**125**	**200**	**08**
Total V + VI Semester				**22**	**310**	**150**	**250**	**400**	**16**

Note:-

1. DSE HIS: Discipline Specific Elective Course of History
2. DGEHIS: Discipline Generic Elective Course of History
3. SEC: Skill Enhancement Course.
4. CA: Continuous Assessment.
5. ESE: End of Semester Examination

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year
2021-2022
Semester Pattern
(Choice Based Credit System)

History -Semester - V

Paper No	Title of the Paper	Continuous Assessment	End Semester Exam	Total CA+ESE
DSE HIS-I	History of Modern India (1857A.D. to 1947 A.D.) **OR** Landmarks of World History	25	50	75
DGE HIS-I	Social Reformers in Maharashtra & Awakening Movements	25	50	75
SEC III	Appreciation of Indian Art	25	25	50

History - Semester - VI

Paper No.	Title of the Paper	Continuous Assessment	End Semester Exam	Total CA+ESE
DSE HIS-II	History of Modern India (1857A.D. to 1947 A.D.) **OR** Landmarks of World History	25	50	75
DGE HIS-II	Social Reformers in Maharashtra & Awakening Movements	25	50	75
SEC IV	Appreciation of Indian Art	25	25	50

❖ Core Course:

1) Continuous Assessment (C.A.): 25 Marks

✓ One Class Test for = 10 Marks
✓ One Home Assignment of = 10 Marks
✓ One Seminar for = 05 Marks

2) End of Semester Examination (E.S.E.) 50 Marks

❖ Skill Enhancement Course (SEC) : 50 Marks

1) Continuous Assessment (C.A.) : 25 Marks

✓ One Class Test for = 10 Marks
✓ One Seminar (Abstract must) for = 15 Marks

2) End of Semester Examination (E.S.E.) 25 Marks

✓ Skill Development Activities (Project) for = 10 Marks
✓ Theory Examination on Prescribed Answer Book for = 10 Marks
✓ Presentation of Project (Viva-Voce) for = 05 Marks
✓ (ESE) End of Semester Exam will be conduct under the external examiner from university panel.

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester V & VI **Paper –DSE HIS – I & II**

History of Modern India (1857A.D. to 1947 A.D.)

Internal Mark - Test-I -10, Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Features:-

1. This paper brings together the major events in the Indian Freedom Struggle.
2. This paper highlighting the Role of Indian National Congress.
3. It helps to recognize and focus on the activities and policies of Mahatma Gandhi.
4. It throws light on the Contribution of Revolutionaries in Freedom Struggle.
5. This Paper realizes the Constitution development & making of Indian Constitution.

Objectives:-

1. To introduce Indian Freedom Struggle Movements in broad manner.
2. To instill the spirit of nationalism among students.
3. Make the students responsible Citizen of the nation.
4. To inculcate moral qualities like Freedom, Unity, Fraternity, Equality in students.
5. To make the students aware of criticizing.

Utility:

1. To enhance the national interest among the students.
2. To support the spirit of competency.
3. To inculcate the National and International virtues in the minds of students.
4. To enlighten the spirit of fellow feeling.
5. To elaborate the Modern Indian History in various contexts.

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester V **Paper –DSE HIS - I**

History of Modern India (1857A.D. to 1947 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Mark - Test-I -10, Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Units	Lectures
Unit 1) Uprising of 1857	**09**
a) Causes	
b) Course	
c) Consequences	
Unit 2) Religious and Social Reform Movements	**12**
a) Bramho Samaj	
b) Prathana Samaj	
c) Satyashodhak Samaj	
d) Arya Samaj	
Unit 3) Indian National Congress	**14**
a) Indian Nationalism & Indian National Congress	
b) Moderates- Ideology & Achievements	
i. Mahadev Govind Ranade	
ii. Dadabhai Nauroji	
iii. Gopal Krishna Gokhale	
iv. Ferozshah Mehta	
Unit 4) Lokmanya Tilak & Extremist Nationalism	**12**
a) Rise of Extremist Nationalism & Ideology of Extremism	
b) Surat Congress – 1907	
c) Achievements of Extremists	
i. Bal Gangadhar Tilak	
ii. Lala Lajpat rai	
iii. Bipinchandra Pal	
d) Home Rule Movement	
Unit 5) Education and Press	**08**
a) Hunter Commission	
b) University Act of 1904	
c) Vernacular Press act of 1878	
d) Lord Ripon's Policy of Press	

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester VI **Paper –DSE HIS - II**

History of Modern India (1857A.D. to 1947 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Mark - Test-I -10, Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** =Total Marks -**75**

Units	Lectures
Unit 1) Gandhian Era	**16**
a) Mahatma Gandhi – Early Political Activities	
b) Non Cooperation Movement	
c) Civil Disobedience Movement	
d) Quit India Movement	
Unit 2) Revolutionary Movement	**11**
a) Causes for Rise of Revolutionary Movement	
b) Revolutionary Movement in Maharashtra, Bengal & Punjab	
c) Netaji Subhash Chandra Bose and Azad Hind Sena	
Unit 3) Constitutional Development	**10**
a) Government of India Act - 1858	
b) Morley Minto Act - 1909	
c) Montague Chelmsford Act - 1919	
d) Government of India Act - 1935	
Unit 4) Independence of India	**09**
a) Mountbatten Plan	
b) Indian Independence act - 1947	
c) Partition of India & its Consequences	
Unit 5) Indian Constitution	**09**
a) Formation of Indian Constitution	
b) Preamble	
c) Salient Features of Indian Constitution	

Reference Books:-

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२. डॉ. रोडे सोमनाथ, ***आधुनिक भारत***, पिंपळापुरे पब्लिशर्स, नागपूर

३. डॉ. कठारे अनिल, ***आधुनिक भारताचा इतिहास***, प्रशांत पब्लिकेशन, नांदेड, 2008

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५. बिपीन चंद्र, (संपा.) ***भारताचा स्वतंत्र्य संघर्ष***, के सागर प्रकाशन, पुणे 2010

६. तळवलकर गोविंद, ***सत्तांतर:1947, खंड 1 ते 3***, मौज प्रकाशन गृह , मुंबई, 2011

७. डॉ, कुलकर्णी विजय, ***भारतीय स्वातंत्र्यलढ्यातील महाराष्ट्रातील सशस्त्रता***, विद्या प्रकाश, नागपूर, डिसेंबर 2012

८. डॉ. सातभाई श्रीनिवास, ***आधुनिक भारताचा इतिहास (इ.स. 1757 ते 1977),*** विद्या बुक्स पब्लिशर्स, औरंगाबाद, जानेवारी 2016

९. डॉ. दंदे सदाशिव (संपा.) - ***भारतीय स्वातंत्र्यचळवळीचा इतिहास (इ.स. 1858 त 1950),*** दूरशिक्षण विभाग, स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड, नोव्हेंबर 2019

10. Grover B.L., ***A New Look at Modern Indian History***, S.Chand & Co. New Delhi, 2009

11. Nanda S. P., ***History of Modern India***, Diamond Publisher New Delhi, 2003.

12. Mukharjee R.K., ***Rise and fall of East India Company***

13. Bhatia H.S., ***End of British Power and partition of India***, Deep & Deep Publishers, 2001

14. Sarkar Sumit, ***Modern India – 1885-1947***, Mc Milan, India Ltd., 2008

***

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester V & VI **Paper –DSE HIS – I & II**

Landmarks of World History

Credits -03 **Lectures -55** **Marks –75**

Internal Mark - Test-I -10, Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** =Total Marks -**75**

Features:-

1) This paper helps to study the various events in the world.

2) The history of modern world is motivational and inspirational.

3)18th century were transformational in term of Human development in history of world.

4) Mankind began to move from slavery towards human right with the liberty, equality & Fraternity.

5) The platform was provided through League of Nations and united nation organizations to solve the various issues at international level.

Objectives:-

1. To introduce the major events in the World history.
2. To unfold the global history with the reference to the present issues.
3. To narrate the rise of the various ideologies for the human welfare.
4. To examine peace keeping process in the modern World.
5. To state the importance of the brotherhood, peace, co-operation and National security.

Utility:

1. The students will perceive the great revolutions like American Revolution, French Revolution, & Russian revolution.
2. Students will study the social and economical changes in the world history.
3. Student will understand the relations between the nations in the world.
4. Students will streamline the role of League of Nations and U.N.O.
5. Students understand the consequences of the First and the Second World War regarding the present global crises.

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester V **Paper –DSE HIS - I**

Landmarks of World History

Credits -03 **Lectures -55** **Marks –75**

Internal Mark - Test-I -10, Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** =Total Marks -**75**

Units	Lectures
Unit 1) American Revolution	**12**
a) Causes	
b) Course	
c) Effects	
Unit 2) French Revolution	**12**
a) Causes	
b) Course	
c) Effects	
Unit 3) Unification of Italy	**10**
a) Rise of Nationalist Movement	
b) Role of Joseph Mazzini	
c) Role of Count Cavour	
d) Role of Garibaldi	
Unit 4) Unification of Germany	**10**
a) Rise of Nationalist Movement	
b) Role of Kaiser William First	
c) Role of Bismarck	
Unit 5) World War I	**11**
a) World War I	
i. Causes	
ii. Course	
iii. Effects	
b) League of Nations	
i. Foundation, Objectives & Functioning of League of Nations	
ii. Cause of Failure of League of Nations	

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester VI **Paper –DSE HIS - II**

Landmarks of World History

Credits -03 **Lectures -55** **Marks –75**

Internal Mark - Test-I -10, Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** =Total Marks -**75**

Units	Lectures
Unit 1) Russian Revolution	**12**
a) Causes	
b) Course	
c) Effects	
Unit 2) Rise of Dictatorship in Germany	**12**
a) Causes of Rise of Nazism	
b) Internal Policy of Adolf Hitler	
C) Foreign Policy of Adolf Hitler	
Unit 3) Rise of Dictatorship in Italy	**10**
a) Causes of Rise of Fascism	
b) Internal Policy of Benito Mussolini	
C) Foreign Policy of Benito Mussolini	
Unit 4) World War II	**12**
a) Causes	
b) Course	
c) Effects	
Unit 5) United Nations (U.N.O)	**09**
a) Causes & objectives of foundation of U.N.O	
b) Functioning of U.N.O	
c) Achievements of U.N.O	

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११. डॉ दंदे सदाशिव (संपा.) ***जगाचा इतिहास***, दूरशिक्षण विभाग, स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड, नोव्हेंबर 2019

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१६. Norman Lowe, ***Mastering Modern World History***, Palgrave Macmillan, 2015

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Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester V& VI **Paper –DGE HIS I & II**

Social Reformers in Maharashtra & Awakening Movements

Internal Marks - Test-I -10, Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks **-75**

Features:-

1) This paper deal with achievements in social & Educational fields of Modern Maharashtra

2) The women emancipation movement is illustrated in this paper.

3) This paper put light on the transformation of Modern Maharashtra with various aspects.

4) This paper will enable the enlightened thinking of the students.

5) This Paper shows the difficulties faced by Social Reformers for Maharashtra.

Objectives:-

1. To acquaint the students with social change process in Modern Maharashtra.
2. To introduce the educational development in Modern Maharashtra.
3. To enhance the scientific outlook among the students.
4. To enhance the perception ability of the students.
5. To widen the broad view of the students about the society.
6. To create awareness among the students about Organ Donation.

Utility:

1. To aware the students to know the contribution of Social Reformers.
2. To contribute constructively towards the building of society.
3. To make preparation for competitive examinations.
4. To maintain the social harmony.
5. To know the legacy of the great social reformers and thinkers.

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester V **Paper –DGE HIS – I**

Social Reformers in Maharashtra & Awakening Movements

Credits -03 **Lectures -55** **Marks –75**

Internal Marks - Test-I -10, Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Units	Lectures
Unit 1) Social Reforms Movement in Maharashtra	**08**
a) Causes	
b) Effects	
c) Importance	
Unit 2) Mahatma Jotiba Phule	**15**
a) Early Life	
b) Social Work	
c) Educational Work	
Unit 3) Gopal Ganesh Agarkar	**10**
a) Early Life	
b) Social Work	
c) Educational Work	
Unit 4) Maharshi Vitthal Ramji Shinde	**10**
a) Early Life	
b) Social Work	
c) Educational Work	
Unit 5) Rajarshi Shahu Maharaj	**12**
a) Early Life	
b) Social Work	
c) Educational Work	

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year

Semester VI **Paper –DGE HIS – II**

Social Reformers in Maharashtra & Awakening Movements

Credits -03 **Lectures -55** **Marks –75**

Internal Marks - Test-I -10,Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Units	Lectures
Unit 1) Dr. Babasaheb Ambedkar	**13**
a) Early Life	
b) Social Work	
c) Educational Work	
Unit 2) Karmaveer Bhaurao Patil	**11**
a) Early Life	
b) Social Work	
c) Educational Work	
Unit 3) Karmayogi Baba Amte	**10**
a) Early Life	
b) Social Work	
c) Skill Based Education	
Unit 4) Superstition Eradication Movement	**11**
a) Meaning & Nature	
b) Types & Challenges	
c) Background of Anti-Superstition & Black Magic Act 2013	
Unit 5) Organ Donation Movement	**10**
a) Meaning, Nature & Process	
b) The Transplant of Human Organs & Tissue Act, 1994	
c) Tradition of Organ Donation	
d) Benefits & Challenges	

Reference Books:-

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Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year- Skill Enhancement Course

Semester V & VI **Paper –III & IV**

Appreciation of Art

Internal Marks - Test-10, Seminar-15 = **25**, Theory Exam- **25** = Total Marks -**50**

Features:-

1) This paper deal with rich heritage of India & Maharashtra.

2) This paper put light on the variations of Art & Architecture in India.

3) This paper aware about responsibilities towards Indian Heritage & Conservation.

4) This paper encourages enlightening about our nearby historical sites.

Objectives:-

1. To introduce the students to the Indian art from past to present.
2. To unfold aesthetic prosperity of the Indian art.
3. To appreciate the various contexts of Indian art.
4. To give wide exposure to the Indian art through site visits and visual effects.
5. To create awakening to conserve the historical heritage by way of establishing Museums.

Utility:

1. To enhance the views regarding the Indian Art.
2. To enrich the historical understanding of the students with reference to creative arts.
3. To enable the students for their vocational careers.
4. To get jobs in Archaeology Department and Tourism Industries.
5. To conserve the historical Monuments and places in their local areas.

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year- Skill Enhancement Course

Semester V **Paper –III**

Appreciation of Art

Credits – 02 **Lectures – 45** **Marks – 50**

Internal Marks - Test-10, Seminar-15 = **25**, Theory Exam- **25** = Total Marks -**50**

Units	Lectures
1. Introduction of Indian Art	**12**
a) Meaning & Nature of Art	
b) Definition	
c) Development	
d) Characteristics of Indian Art	
2. Pre Historic & Proto Historic Art	**14**
a) Stone Age – i)Rock Paining (U.P.) ii)Bhimbetka (M.P.)	
b) Harappan Art	
3. Caves, Stupas, Temple & Iconography	**19**
a) Caves – Barbar, Karle, Pitalkhore	
b) Stupa – Sanchi, Sarnath, Amravati	
c) Temples – Nagnath (Aundha), Sidhheshwar (Hottal), Nilangeshwar (Nilanga), Guptshwar (Dharasur)	
d) Iconography – Baudhha, Jain & Hindu	

Swami Ramanand Teerth Marathwada University, Nanded

B.A. Third Year- Skill Enhancement Course

Semester VI **Paper –IV**

Appreciation of Art

Credits – 02 **Lectures – 45** **Marks – 50**

Internal Marks - Test-10, Seminar-15 = **25**, Theory Exam- **25** = Total Marks -**50**

Unit	Lectures
1) World Heritage sites in India	**12**
a) Elephanta Caves	
b) Khajuraho Temples	
c) Hampi	
d) Ellora Caves	
2) Medieval Indian Art & Architecture	**18**
a) Sultanate Period – Kuwaat Ul Islam, Qutub Minar, Adhai Din Ka Zopda	
b) Mughal Period – Fatehpur Sikri, Taj Mahal, Bibi Ka Makbara	
c) Maratha Period – Vadas, Temples, Forts	
3) Conservation of Indian Art	**15**
a) Role of Archaeology Department	
b) Role of Researcher & Students	
c) Role of Museums	

Books for Reference

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Swami Ramanand Teerth Marathwada University, Nanded

End of Semester Examination (ESE)

B.A. Third Year History

Question Paper Pattern for Semester V & VI

Paper V, VI, VII, VIII

With Effect from 2021-2022

Duration: Three Hours **Marks: 50**

Q1) Descriptive Question **10 Marks**

Or

Descriptive Question

Q2) Descriptive Question **10 Marks**

Or

Descriptive Question

Q3) Descriptive Question **10 Marks**

Or

Descriptive Question

Q4) Descriptive Question **10 Marks**

Or

Descriptive Question

Q5) Write short notes on (any two) (Each One for 05 Marks) **10 Marks**

I) Short Note

II) Short Note

III) Short Note

IV) Short Note

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।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
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संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम व द्वितीय वर्षा इतिहास या विषयाचे Resived अभ्यासक्रम लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम व द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे Revised अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. - I Year- History
02. B. A. - II year- History

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/
२०२१–२२/
दिनांक : १८.०८.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

Swami Ramanand Teerth Marathwada University, Nanded

SYLLABUS

History

B. A. First Year

Semester I & II

Semester Pattern

(Choice Based Credit System)

(With Effective from Academic Year 2019-2020)

Swami Ramanand Teerth Marathwada University, Nanded

B.A. First Year, Semester I and II

Semester Pattern 2021-2022

(Choice Based Credit System)

Semester	Core Course	Paper No.	Name of Paper	Lecture /week	Total No. of Lectures	CA	ESE	Total Marks	Credits
I	CCHIS – I	I	History of Ancient India (Up to 647 A.D.)	4	55	25	50	75	03
	CCHIS – II	II	History of India (648 to 1526 A.D.)	4	55	25	50	75	03
	Total			**8**	**110**	**50**	**100**	**150**	**06**
II	CCHIS – III	III	History of Ancient India (Up to 647 A.D.)	4	55	25	50	75	03
	CCHIS – IV	IV	History of India (648 to 1526 A.D.)	4	55	25	50	75	03
	Total			**8**	**110**	**50**	**100**	**150**	**06**
Total I + II Semester				**16**	**220**	**100**	**200**	**300**	**12**

Note:-

1. CA: Continuous Assessment.
2. ESE: End of Semester Examination

Swami Ramanand Teerth Marathwada University, Nanded

B.A First Year
2021-2022
Semester Pattern
(Choice Based Credit System)

History -Semester – I

Paper No	Title of the Paper	Continuous Assessment	End Semester Exam	Total CA+ESE
CCHIS-I	History of Ancient India (Up to 647 A.D.)	25	50	75
CCHIS-II	History of India (648 to 1526 A.D.)	25	50	75

History - Semester – II

Paper No.	Title of the Paper	Continuous Assessment	End Semester Exam	Total CA+ESE
CCHIS-III	History of Ancient India (Up to 647 A.D.)	25	50	75
CCHIS-IV	History of India (648 to 1526 A.D.)	25	50	75

❖ Core Course:

1) Continuous Assessment (C.A.): 25 Marks

✓ One Class Test for = 10 Marks
✓ One Home Assignment of = 10 Marks
✓ One Seminar for = 05 Marks

2) End of Semester Examination (E.S.E.) 50 Marks

Swami Ramanand Teerth Marathwada University, Nanded

B.A First Year

Semester I & II **Paper –HIS – I & III**

History of Ancient India (Up to 647 A.D.)

Internal Mark- Test-I -10, Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Features:

1. This paper dealt with the cultural History of Ancient India.
2. This paper has wide scope to learn about the Indus Valley Civilization and Vedic Age.
3. This paper gives emphasis on the study of various dynasties in Ancient India.
4. This paper puts light on the contribution of various kings.

Utility:

1. This paper will helps students to know the archaeological and literary sources.
2. The Students will know about the great kings in Ancient India.
3. The Students will study the different religions.
4. The students will study the process of decline of the great Dynasties.

Objectives:

1. To understand the historical advancement of Ancient India from Stone Age to 647 A.D
2. To understand the cultural history of Indus valley civilization and Vedic age
3. To develop the broad view about the religious development in Ancient India
4. To create interest among students about Ancient periods Empire and Dynasty
5. To introduce the students about the contributions of various kings of Ancient India

Pre Requisites:

1. Student should have the brief introduction of Ancient Indian History.
2. Students should have information of sources of Ancient Indian History.
3. Students are must be familiar with the religions in Ancient India.
4. Students are must be knowing the achievements of some eminient kings in Ancient India.

Swami Ramanand Teerth Marathwada University, Nanded

B.A First Year

Semester I **Paper –HIS - I**

History of Ancient India (Up to 647 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Mark- Test-I -10, Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam-**50** = Total Marks-**75**

Units	Periods
Unit 1) Sources	**10**
a) Archaeological Sources	
b) Literary Sources	
c) Reliability & Importance of Sources	
Unit 2) Stone Age & Indus Valley Civilization	**13**
a) Stone Age – Various Stages	
b) Indus Valley Civilization	
i. Discovery	
ii. Major Sites & Excavation (Harappa, Mohenjo-Daro, Kalibangan, Lothal)	
iii. Town Planning	
iv. Causes of Decline	
Unit 3) Vedic Age	**13**
a) Pre Vedic Period – Political, Social, Religious & Economic Life	
b) Post Vedic Period – Political, Social, Religious & Economic Life	
Unit 4) Wardhman Mahavir & Jainism	**10**
a) Sixteen Mahajanpadas	
b) Wardhman Mahavir – Early Life	
c) Teaching & Principles	
Unit 5) Gautam Budhha & Buddhism	**09**
a) Gautam Budhha – Early Life	
b) Teaching & Principles	

Swami Ramanand Teerth Marathwada University, Nanded

B.A First Year

Semester II **Paper –HIS - III**

History of Ancient India (Up to 647 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Mark- Test-I -10, Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam- **50** =Total Marks-**75**

Units	Periods
Unit 1) Mauryan Empire	**14**
a) Chandragupta Maurya – Career & Achievement	
b) Ashoka - Career & Achievement	
c) Causes of Decline of Mauryan Empire	
Unit 2) Satavahana Dynasty	**11**
a) Satkarni - I	
b) Raja Hal	
c) Gautamiputra Satkarni	
Unit 3) Gupta Dynasty	**12**
a) Chandragupta – I	
b) Samudragupta	
c) Chandragupta – II & Golden Age	
d) Decline of Gupta Empire	
Unit 4) Vakataka Dynasty	**08**
a) Vindhyashakti	
b) Pravarsen – I	
Unit 5) Wardhan & Chalukya Dynasty	**10**
a) Wardhan Dynasty – Harshawardhan - Career & Achievement	
b) Chalukya of Badami – Pulkeshi II - Career & Achievement	

Reference Books:-

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२. डॉ. गाठाळ एस. एस., ***भारताचा इतिहास (इ. स. 650 पर्यंत)***, कैलाश पब्लिकेशन्स, औरंगाबाद, 2002

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७. डॉ. कठारे अनिल,डॉ. साखरे विजया, ***प्राचीन भारताचा इतिहास व संस्कृती***, विद्या बुक्स पब्लिशर्स, औरंगाबाद, 2012

८. डॉ. सौ. काला अरुणा रवींद्र, ***तीर्थंकर महावीर***, निर्मल प्रकाशन, नांदेड, एप्रिल 2012

९. थापर रोमिला, ***अर्ली इंडिया***, के सागर पब्लिकेशन्स, पुणे, 2013

10. Jha, D. N., ***Ancient India - an introductory outline***, People's Pub. House, 1977

11. Sharma, R. S., ***India's Ancient Past***, Oxford University Press, New Delhi, 2006

12. Singh Upinder, ***A History of Ancient & Early Medieval India***, Pearson, Delhi, 2016

13. Thapar Romila, ***The Penguin History of Early India: From the Origins to AD 1300***, University of California Press, 2003

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15. Shastri, A.M. (ed.), ***The Age of Satavahanas 2 vols.***,Aryan Publications, New Delhi, 1999

16. Shastri, A.M. (ed.). ***The Age of Vakatakas 2 vols.***,Harman Publishing House, New Delhi, 1999

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Swami Ramanand Teerth Marathwada University, Nanded

B.A First Year

Semester I & II **Paper –HIS – II & IV**

History of India (648A.D. to 1526 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Mark- Test-I -10,Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam- **50** =Total Marks **-75**

Features:

1. This paper will dealt with the cultural and political history of India up to 1526 A.D.
2. This paper creates a bridge to learn the history from Ancient India to Medieval India.
3. This paper creates an interest about the History of Indian and Muslim dynasties.
4. This paper shows the achievements of kings from various dynasties.

Utility:

1. This paper is useful to understand the political History.
2. This paper helps students to understand the Muslim invasion and their impacts on India.
3. Student will study the Contribution of different dynasties in Indian History.
4. Student will be able to acquire knowledge about changing dynasties and their impact on Indian society.

Objectives:

1. To understand the historical events from 648 A.D. to 1526 A.D
2. To understand the Archaeological and Literary sources
3. To develop a broad view about various dynasty
4. To create an interest among the students about Muslim invasions and dynasties

Pre Requisites:

1. Students must be known about the archaeological and literary sources.

Swami Ramanand Teerth Marathwada University, Nanded

B.A First Year

Semester I **Paper –HIS - II**

History of India (648 A.D. to 1526 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Mark- Test-I -10,Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam- **50** =Total Marks -**75**

Units	Periods
Unit 1) Sources	**10**
a) Archaeological Sources	
b) Literary Sources	
c) Reliability & Importance of Sources	
Unit 2) Rashtrakuta, Chalukya & Yadava	**15**
a) Rashtakuta – Dantidurga, Krishna – I, Amoghvarsha – I, Krishna - III	
b) Chaalukya of Kalyani – Tailap – II, Vikramaditya - VI	
c) Yadava – Bhillam –V, Ramchandradeva, Decline of Yadava	
Unit 3) Rajput Dynasty	**10**
a) Gurjar Pratihar, Chouhan, Solunki	
b) Decline of Rajput Dynasty	
Unit 4) Vijayanagar Empire	**10**
a) Harihar & Bukka	
b) Krishnadevraya	
c) Decline of Vijayanagar Empire	
Unit 5) Bahamani Empire	**10**
a) Allaudin Hasan Bahamanshah	
b) Mahmadshah – III	
c) Mehmud Gawan	
d) Decline of Bahamani Empire	

Swami Ramanand Teerth Marathwada University, Nanded

B.A First Year

Semester II **Paper – HIS - IV**

History of India (648 A.D. to 1526 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Mark- Test-I -10,Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam- **50** =Total Marks -**75**

Units	Periods
Unit 1) Early Muslim Invasion & its Effects	**12**
a) Arab Invasion – Mohammad Bin Qasim	
b) Turki Invasion – Mehmud Gazani, Mohammad Ghori	
Unit 2) Slave Dynasty	**12**
a) Qutubuddin Aibak	
b) Altamash	
c) Razia Sultan	
Unit 3) Khilji Dynasty	**11**
a) Alaudin Khilji – Early Life	
b) Expansion of empire in North India	
c) Deccan Policy of Alaudin Khilji	
Unit 4) Tughlaq Dynasty	**11**
a) Muhammad bin Tughlaq – Early Life	
b) Schemes of Muhammad bin Tughlaq	
c) Causes of Failure	
Unit 5) Sayyad & Lodi Dynasty	**09**
a) Sayyad Dynasty – Khijr Khan	
b) Lodi Dynasty - Ibrahim Lodi	
c) Decline of Delhi Sultanate	

Reference Books:-

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12. Banerji A.C., ***New History of Medieval India***, S. Chand New Delhi, 1990

13. Mehta J.L., ***Advanced study in the history of medieval India Volume 1 and 3***, sterling Publishers Pvt. Ltd, 1979

14. Stein Burton, ***Vijayanagara*** , Cambridge University Press, 1989

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Swami Ramanand Teerth Marathwada University, Nanded

End of Semester Examination (ESE)

B.A First Year History

Question Paper Pattern for Semester I & II

Paper I, II, III, IV

With Effect from 2021-2022

Duration: Three Hours **Marks: 50**

Q1) Descriptive Question **10 Marks**

Or

Descriptive Question

Q2) Descriptive Question **10 Marks**

Or

Descriptive Question

Q3) Descriptive Question **10 Marks**

Or

Descriptive Question

Q4) Descriptive Question **10 Marks**

Or

Descriptive Question

Q5) Write short notes on (any two) (Each One for 05 Marks) **10 Marks**

I) Short Note

II) Short Note

III) Short Note

IV) Short Note

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।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम व द्वितीय वर्षा इतिहास या विषयाचे Resived अभ्यासक्रम लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम व द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे Revised अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. - I Year- History
02. B. A. - II year- History

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/
२०२१–२२/
दिनांक : १८.०८.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

Swami Ramanand Teerth Marathwada University, Nanded

SYLLABUS

History

B. A. Second Year

Semester III & IV

Semester Pattern

(Choice Based Credit System)

(With Effective from 2020-2021)

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year, Semester III and IV

Semester Pattern 2020-21

(Choice Based Credit System)

Semester	Core Course	Paper No.	Name of Paper	Lecture /week	Total No. of Lectures	CA	ESE	Total Marks	Credits
III	CCHIS-I	V	Chhatrpati Shivaji and His Times (1630A.D. to 1707 A.D.)	4	55	25	50	75	03
	CCHIS-II	VI	History of India (1526A.D. to 1707 A.D.)	4	55	25	50	75	03
	SEC	I	Tourism	3	45	25	25	50	02
	Total			**11**	**155**	**75**	**125**	**200**	**08**
IV	CCHIS-III	VII	Chhatrpati Shivaji and His Times (1630A.D. to 1707 A.D.)	4	55	25	50	75	03
	CCHIS-IV	VIII	History of India (1757A.D. to 1856 A.D.)	4	55	25	50	75	03
	SEC	II	Tourism	3	45	25	25	50	02
	Total			**11**	**155**	**75**	**125**	**200**	**08**
Total I + II Semester				**22**	**310**	**150**	**250**	**400**	**16**

Note:- CA: Continuous Assessment
ESE: End of Semester Examination
SEC- Skill Enhancement Course

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year
2020-2021
Semester Pattern
(Choice Based Credit System)

History -Semester - III

Paper No	Title of the Paper	Internal Marks	End Semester Exam	Total CA+ESE
HIS-I	Chhatrapati Shivaji and His Times (1630A.D. to 1707 A.D.)	**25**	**50**	**75**
HIS-II	History of India (1526A.D. to 1707 A.D.)	**25**	**50**	**75**
	SEC- Tourism	**25**	**25**	**50**

History - Semester - IV

Paper No.	Title of the Paper	Internal Marks	End Semester Exam	Total CA+ESE
HIS-I	Chhatrapati Shivaji and His Times (1630A.D. to 1707 A.D.)	**25**	**50**	**75**
HIS-II	History of India (1757A.D. to 1856 A.D.)	**25**	**50**	**75**
	SEC- Tourism	**25**	**25**	**50**

❖ Core Course: 75 Marks

1) Continuous Assessment (C.A.): 25 Marks

- ✓ One Class Test for = 10 Marks
- ✓ One Home Assignment of = 10 Marks
- ✓ One Seminar for = 05 Marks

2) End of Semester Examination (E.S.E.) 50 Marks

❖ Skill Enhancement Course (SEC) : 50 Marks

1) Continuous Assessment (C.A.) : 25 Marks

- ✓ One Class Test for = 10 Marks
- ✓ One Seminar (Abstract must) for = 15 Marks

2) End of Semester Examination (E.S.E.) 25 Marks

- ✓ Skill Development Activities (Project) for = 10 Marks
- ✓ Theory Examination on Prescribed Answer Book for = 10 Marks
- ✓ Presentation of Project (Viva-Voce) for = 05 Marks

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year

Semester III **Paper –V & VII**

Chhatrpati Shivaji and His Times (1630 A.D. to 1707 A.D.)

Internal Marks - Test-I -10,Assignment-10, Attendance/Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Features:

1) This paper deals with the history of Chhatrapati Shivaji Maharaj and his times.
2) It helps to know and focus on the nature and policies of Chhatrpati Shivaji's Swarajya.
3) It throws light on the building of Swarajya and his Kingdom.
4) It is essential to present Chhatrpati Shivaji's contribution in various aspects for people.

Utility:

1) It will help the students to understand the most important and inspiring history of Medieval Maharashtra.
2) It will help the students to understand the political and administration of this period.
3) It will aware the students about various policies regarding Agriculture, Water management, Environment and Scientific approach of Chhatrpati Shivaji Maharaj.
4) The students will study the process of Mughal kings and British Governors.

Objectives:

1) To understand the real history of Chhatrpati Shivaji Maharaj and his times
2) To understand the benevolent nature of Chhatrapati Shivaji's regime
3) To focus on the contribution of Chhatrpati Shivaji in building an independent Swarajya
4) To introduce the various policies regarding Agriculture, Water management, Environment and Scientific approach of Chhatrpati Shivaji Maharaj.

Pre Requisites:

1. Student should have the brief introduction of Chhatrpati Shivaji and his contribution.
2. Students should be aware of conflict of Chhatrpati Shivaji with Adilshahi and Mughal.
3. Students are must be familiar with Adilshahi, Nizamshahi and Mughal.

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year

Semester III **Paper –V**

Chhatrpati Shivaji and His Times (1630 A.D. to 1707 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Marks - Test-I -10,Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Units	Periods
Unit 1) Sources for the study of Maratha History	10
a) Literary Sources	
b) Archaeological Sources	
c) Reliability & Importance of Sources	
Unit 2) Causes for the Rise of Maratha Power	**10**
a) Causes	
b) Contribution of Shahaji Raje and Rajmata Jijau	
Unit 3) Shivaji Maharaj's Relation with Adilshahi	**11**
a) Early movements of Shivaji Maharaj	
b) jawali episode	
c) Afzal Khan Episode	
Unit 4) Shivaji Maharaja's Relation with Mughal	**11**
a) Shahista Khan Episode and Attack on Surat	
b) Invasion of Mirza Raje Jaisingh	
c) Treaty of Purandar and Visit to Agra	
Unit 5) Chhatrpati Shivaji's Coronation & Karnataka Expedition	**13**
a) Chhatrpati Shivaji's Coronation: causes and significances	
b) Karnataka Expedition: Causes and Consequences	

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year

Semester IV **Paper –VII**

Chhatrpati Shivaji and His Times (1630 A.D. to 1707 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Marks - Test-I -10,Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Units	Periods
Unit 1) Chhatrpati Shivaji: A Benevolent King	**12**
a) Agricultural Policy	
b) Water Management	
c) Environmental Policy	
d) Scientific Approach	
Unit 2) Chhatrapati Sambhaji	**14**
a) Relation with Adilshahi and Kutubshahi	
b) Relation with Mughal	
c) Relation with Portuguese, British and Siddhis	
Unit 3) Chhatrapati Rajaram	**10**
a) Early Life	
b) Contribution to Maratha War of Independence	
c) Ramchandra pant Amatya	
Unit 4) Maharani Tarabai	**10**
a) Contribution to Maratha War of Independence	
b) Santaji Ghorpade and Dhanaji Jadhav	
c) Importance of the Maratha war of Independence	
Unit 5) the Maratha Administrative System	**09**
a) Central administration	
b) Provincial Administration	
c) Village administration	

Reference Books:-

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२) बेंद्रे वा. सी, ***श्री छत्रपती संभाजी महाराजांचे विचिकित्सक चरित्र***, मनोरमा प्रकाशन, मुंबई

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५) डॉ. रोडे सोमनाथ, ***मराठयांचा इतिहास***, पिंपळापुरे अँड कंपनी पब्लिशर्स, नागपूर, 1996

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७) कुलकर्णी अ .रा., ***शिवकालीन महाराष्ट्र***, शिवाजी विद्यापीठ, कोल्हापूर, 1977

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९) डॉ कदम सतीश, ***अष्टयोगांत शिवराय***, अक्षरलेणे प्रकाशन, सोलापूर, 2012

१०) डॉ. मुटकुळे रामभाऊ, डॉ. धाये राजेंद्र, ***मराठ्यांचा इतिहास***, चिन्मय प्रकाशन, औरंगाबाद, 2013

११) डॉ. मुटकुळे रामभाऊ, ***महात्मा फुलेकृत मराठ्यांचा इतिहास***, पंचफुला प्रकाशन, औरंगाबाद, 2014

१२) डॉ. जमाले हरिभाऊ, ***मराठेकालीन लोकांचे दैनंदिन जीवन***, चिन्मय प्रकाशन, औरंगाबाद, 2012

१३) डॉ. जमाले हरिभाऊ, ***शिवाजी आणि शिवकाल***, अक्षरलेणे प्रकाशन, सोलापूर, 2014

१४) डॉ. मुटकुळे रामभाऊ, डॉ. सोमवंशी गिरधर, ***साहित्यातील छत्रपती संभाजीराजे आणि वास्तव इतिहास,*** पंचफुला प्रकाशन, औरंगाबाद, 2018

15) Sarkar J. N. – ***Shivaji and his Times***, Orient Longman, Delhi1973.

16) Bakshi, S. R. & Sharma, Sri Kant, ***The Great Marathas – 5, Marathas: The Administrative System,*** Deep & Deep Publications Pvt. Ltd., New Delhi, 2000.

17) Kulkarni, A. R., ***Maharashtra in the Age of Shivaji,*** Deshmukh & Co., Poona, 1969.

18) Ranade, M.G., ***Rise of the Maratha Power***, University of Bombay, 1961.

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20) Kulkarni A. R. – ***Maharashtra in the age of Shivaji***, Diamond publication, Pune 2007.

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Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year

Semester III **Paper –**VI & VIII

History of India (1526 A.D. to 1707 A.D.)

Internal Marks - Test-I -10,Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Features:

1) This paper contains the cultural History of Mughal India.
2) This paper has wide scope to learn about the political contribution of Mughal Badshah.
3) This paper gives emphasis on the study of contribution of British Governor.
4) This paper puts light on different conditions of Indian people under British rule.

Utility:

1) This paper will help students to know the expansion of Mughal Empire.
2) The Students will know about the great kings in this period.
3) The Students will study the governor Generals policy.
4) The students will study the process of Mughal kings and British Governors.

Objectives:

1) Students will understand the historical advancement of Mughal period 1526 to 1707 A.D.
2) Students will understand the Political aggressiveness of Mughal and British in this age.
3) It will develop the broad view about the religious development of Mughal and British in India.
4) To create interest among students about Mughal Empire and British rule.
5) It will introduce the students about the contributions of Mughal Badshah and British governors.

Pre Requisites:

1) Student should have the brief introduction of Mughal History and British rule.
2) Students should have information of sources of Mughal History.
3) Students are must be familiar with religious condition of Mughal and British period.
4) Students are must be know the achievements of some Mughal Badshah.

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year

Semester III **Paper –VI**

History of India (1526 A.D. to 1707 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Marks - Test-I -10,Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Units	Periods
Unit 1) Sources of Mughal History	10
a) Literary	
b) Archaeological	
Unit 2) Establishment of Mughal Empire	**10**
a) Babar – Invasions, First Panipat War, Expansion	
b) Shershah Suri – Expansion, Reforms, Administration System	
Unit 3) Badshah Akbar	**13**
a) Second Battle of Panipat	
b) Expansion	
c) Deccan Policy	
d) Religious Policy	
Unit 4) Badshah Shahajahan	**10**
a) Career and achievement	
b) Rajput Policy	
c) Deccan Policy	
Unit 4) Badshah Aurangajeb	**12**
a) Career and achievement	
b) Rajput Policy	
c) Religious Policy	
d) Deccan Policy	
e) Decline of Mughal Empire	

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year

Semester IV **Paper –VIII**

History of India (1757 A.D. to 1856 A.D.)

Credits -03 **Lectures -55** **Marks –75**

Internal Marks - Test-I -10,Assignment-10, Attendance/ Seminar-05 = **25**, Theory Exam- **50** = Total Marks -**75**

Units	Periods
Unit 1) Establishment of British Power	**10**
a) East India Company	
b) Battle of Plassey-1757	
c) Battle of Baxar -1764	
Unit 2) Robert Clive (1765-1767 A.D.)	**10**
a) Internal Reform	
b) Dual Government System	
c) Foreign Policy	
Unit 3) Expansion of British Rule - I	**12**
a) Warren Hastings (1772-1785 A.D.)	
b) Lord Cornwallis (1786-1793 A.D.)	
Unit 3) Expansion of British Rule - II	**10**
a) Lord Wellesley (1798-1805 A.D.)	
b) Lord Hasting's (1813-1823 A.D.)	
Unit 4) Consolidation of British Rule	**13**
a) Lord Bentinck (1828-1835 A.D.) - Reform and contribution	
b) Lord Dalhousie (1848-1856 A.D.) – Reform and contribution	

Reference Books:-

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६) डॉ. कोलारकर श. गो., ***मध्ययुगीन भारताचा इतिहास इ.स. 1206 ते 1707***, मंगेश प्रकाशन, नागपूर, 2004

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८) डॉ. कठारे अनिल, ***आधुनिक भारताचा इतिहास***, प्रशांत पब्लिकेशन, नांदेड, 2008

९) डॉ. सातभाई श्रीनिवास, ***आधुनिक भारताचा इतिहास (इ. स. 1757ते 1977),*** विद्या बुक्स पब्लिशर्स, औरंगाबाद, जून 2008

१०) डॉ. मुटकुळे रामभाऊ, ***मध्ययुगीन भारताचा इतिहास***, चिन्मय प्रकाशन, औरंगाबाद, 2014

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१२) डॉ. मुटकुळे रामभाऊ , डॉ. पिंपळपल्ले राजाराम, डॉ. दंदे सदाशिव, ***भारताचा इतिहास,*** अरुणा प्रकाशन, लातूर, मे 2021

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Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year- Skill Enhancement Course

Semester III **Paper – I & II**

Tourism

Internal Marks - Test-10, Seminar-15 = **25**, Theory Exam- **25** = Total Marks -**50**

Features:-

1) This paper gives basic information about Tourism.
2) This makes interest among students about Tour for various places.
3) Student will understand the types and management of Tourism.
4) It gives light on historical sites of Tourism.

Utility:-

1) To enhance the views regarding the Indian Tourism.
2) To enrich the understanding of the students with reference to creative sites for Tourist.
3) To enable the students for their vocational careers.
4) To get jobs in Tourism Department and Tourism Industries.
5) To conserve the historical Monuments and places in their local areas.

Objectives:-

1) To introduce the students to the Indian art
2) To appreciate the various contexts about tourism.
3) To give wide exposer to the Tourism through site visits and visual effects.
4) To create awakening to conserve the heritage by way of establishing Tourist places.

Pre Requisites:-

1) Students should know about religious & Cultural tourist places.

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year- Skill Enhancement Course

Semester III **Paper –I**

Tourism

Credits – 02 **Lectures – 45** **Marks – 50**

Internal Marks - Test-10, Seminar-15 = **25**, Theory Exam- **25** = Total Marks -**50**

	Lectures
Unit 1) Introduction of Tourism	**10**
a) Definition	
b) Historical Background	
c) Types	
d) Nature and scope of Tourism	
Unit 2) Development of Tourism	**14**
a) Purpose and Importance	
b) Sargent Committee	
c) Indian Tourism Development Corporation	
d) Maharashtra Tourism Development Corporation	
Unit 3) Transport and Accommodation	**12**
a) Transport – Nature	
b) Travel Agencies	
c) Accommodation – Nature and Types	
d) Importance of Transport and Accommodation	
Unit 4) Impact of Tourism	**09**
a) Role of History in Tourism	
b) Social Impact	
c) Cultural Impact	
d) Environmental Impact	

Swami Ramanand Teerth Marathwada University, Nanded

B.A Second Year- Skill Enhancement Course

Semester IV **Paper –II**

Tourism

Credits – 02 **Lectures – 45** **Marks – 50**

Internal Marks - Test-10, Seminar-15 = **25**, Theory Exam- **25** = Total Marks -**50**

Units	Lectures
Unit 1) Caves and Temples	**11**
a) Caves- Ajanta, Ellora, Shiur, Mahur.	
b) Temples- Hottal, Aundha Nagnath, Parli vaijanath	
Unit 2) Forts in Marathwada	**14**
a) Devgiri	
b) Kandhar	
c) Mahur	
d) Udgir	
Unit 3) Memorials	**10**
a) Memorials- Bibi ka Makabara, Gurudwara	
Unit 4) Museums in Marathwada	**10**
a) Ter	
b) Bahadarpura	
c) Mahur	
d) Aurangabad	

Books for Reference

१) डॉ. घारपुरे विठ्ठल, ***पर्यटन भूगोल,*** पिंपळापुरे अँड कंपनी पब्लिशर्स, नागपूर, 2001

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THE END

Swami Ramanand Teerth Marathwada University, Nanded

End of Semester Examination (ESE)

B.A Second Year History

Question Paper Pattern for Semester III & IV

Paper V, VI, VII, VIII

With Effect from 2020-21

Duration: Three Hours **Marks: 50**

Q1) Descriptive Question **10 Marks**

Or

Descriptive Question

Q2) Descriptive Question **10 Marks**

Or

Descriptive Question

Q3) Descriptive Question **10 Marks**

Or

Descriptive Question

Q4) Descriptive Question **10 Marks**

Or

Descriptive Question

Q5) Write short notes on (any two) (Each One for 05 Marks) **10 Marks**

I) Short Note

II) Short Note

III) Short Note

IV) Short Note

_____***_____

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड

विषय – **मराठी**

अभ्यासक्रम

एम. ए. मराठी

द्वितीय वर्ष

सत्र तिसरे आणि सत्र चौथे

शैक्षणिक वर्ष - **२०२०-२०२१ (जून २०२०) पासून**

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून

सत्र तिसरे

अभ्यासपत्रिका : IX - **साहित्य समीक्षाशास्त्र**
अभ्यासपत्रिका : X – **सामाजिक भाषाविज्ञान**

अभ्यासपत्रिका : XI - **साठोत्तरी वाङ्मयीन प्रवाह**
किंवा
अभ्यासपत्रिका : XI - **लोकसंस्कृती व मराठी लोकसाहित्य**

अभ्यासपत्रिका : XII - **एका लेखकाचा अभ्यास - मध्ययुगीन - संत तुकाराम**
किंवा
अभ्यासपत्रिका : XII - **एका लेखकाचा अभ्यास - आधुनिक - नागनाथ कोतापल्ले**

सत्र चौथे

अभ्यासपत्रिका : XIII - **समीक्षापद्धती आणि साहित्य संशोधन**
अभ्यासपत्रिका : XIV - **मध्ययुगीन मराठी वाडमयाची सांस्कृतिक पार्श्वभूमी**

अभ्यासपत्रिका : XV - **मराठी वैचारिक साहित्य**
किंवा
अभ्यासपत्रिका : XV - **तौलनिक साहित्य**

अभ्यासपत्रिका :XVI - **प्रादेशिक साहित्य**
किंवा
अभ्यासपत्रिका :XVI - **अमराठी प्रांतातील मराठी साहित्य**

अभ्यासपत्रिका : XVII – **प्रकल्पलेखन**

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून

तासिकांचे नियोजन (सर्व अभ्यास पत्रिकांसाठी)

आठवड्याच्या तासिका	तासिकेचा कालावधी
०४	५० मिनिटे

५० मिनिटे X ५० तासिका = ४ तास (४२ तास)

प्रश्नपत्रिकेचे प्रारूप व गुणविभाजन : एकूण गुण १०० (सर्व अभ्यास पत्रिकांसाठी)

अंतर्गत मुल्यांकन - २५ गुण

घटक चाचणी २	१० गुण
सेमिनार २	१० गुण
स्वाध्याय १	०५ गुण
एकूण	२५ गुण

सत्रांत परीक्षा - ७५ गुण

प्र. १ ला	पर्यायी दीर्घोत्तरी प्रश्न	१५ गुण
प्र. २ रा	पर्यायी दीर्घोत्तरी प्रश्न	१५ गुण
प्र. ३ रा	पर्यायी दीर्घोत्तरी प्रश्न	१५ गुण
प्र. ४ रा	पर्यायी दीर्घोत्तरी प्रश्न	१५ गुण
प्र. ५ था	टीपा द्या (पाचपैकी तीन)	१५ गुण
एकूण		७५ गुण

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम. ए. द्वितीय वर्ष अभ्यासक्रम

जून २०२० पासून

सत्र – तिसरे

अभ्यास पत्रिका – IX - साहित्य समीक्षाशास्त्र

उद्दिष्टे

साहित्याचे स्वरूप लक्षात घेणे .

साहित्याची प्रयोजने समजावून घेणे.

साहित्य निर्मितीची प्रक्रिया समजावून देणे.

साहित्याची आस्वादप्रक्रिया समजून घेणे. साहित्याची भाषा अभयासणे.

साहित्य आणि समाज यातील परस्पर संबंध लक्षात घेणे

वाङ्मय प्रकारांची संकल्पना समजावून देणे

वाङ्मयीन मूल्ये अभ्यासणे.

उपयोगिता

साहित्याचे स्वरूप, प्रयोजने आणि निर्मिती प्रक्रिया, प्रयोजने आणि निर्मिती प्रक्रिया यांचा अनुबंध लक्षात येईल

साहित्याची भाषा आणि आस्वाद प्रक्रिया समजून घेता येईल.

साहित्य आणि समाज अनुबंध उलगडता येईल

साहित्याचे आकलन, मूल्यमापन आणि विश्लेषण करण्याची समीक्षादृष्टी निर्माण होईल.

अभ्यास घटक

साहित्याचे स्वरूप

साहित्याचे प्रयोजन

साहित्याची निर्मिती प्रक्रिया

रसविचार

वाङ्मयीन मूल्ये

वाड्मयप्रकाराची संकल्पना

मराठी समीक्षेचा धावता आढावा

संदर्भ ग्रंथ

साहित्याचे तत्वज्ञान - वि.ना. ढवळे
भारतीय साहित्यशास्त्र – ग. त्र्यं देशपांडे
रसविमर्श – के ना. वाटवे
अभिनव काव्यप्रकाश – रा. श्री. जोग
अभिनव साहित्यशास्त्र – भालचंद्र खांडेकर, लीला गोविलकर
काव्यशास्त्रप्रदीप – स. रा. गाडगीळ
मराठीचे साहित्यशास्त्र – मा. गो. देशमुख
साहित्यविचार – दि. के. बेडेकर
साहित्याची भाषा – भालचंद्र नेमाडे
साहित्यशास्त्रः स्वरुप आणि समीक्षा – वसंत पाटणकर
काव्यशास्त्र परिचय – शिवशंकर उपासे
साहित्याचे तत्वज्ञान – वि. ना. ढवळे
साहित्यातील संप्रदाय – रा. शं.वाळिंबे
मार्क्सवादी साहित्यविचार – के. रं. शिरवाडकर
साहित्यकारण – पृथ्वीराज तौर
मराठी टीका – वसंत दावतर
समीक्षेची नवी रूपे – गंगाधर पाटील
समीक्षेतील नव्या संकल्पना – (संपा) डॉ. मनोहर जाधव
समीक्षा: प्रयोजन आणि कार्य - अनिल सहस्रबुद्धे
समीक्षा: संकल्पना आणि स्वरूप - डॉ.भास्कर शेळके/ प्रा.शशिकांत साळवे
समीक्षा मीमांसा - गंगाधर पाटील
काव्याची भूषणे - म.वा.धोंड
साहित्यशास्त्र - डॉ.नानासाहेब सूर्यवंशी
साहित्यविविध आणि समीक्षा - डॉ. सुशीलकुमार चिमूरे
मूल्यवेधी सम्यक समीक्षा – सा. द. सोनसळे
वाङ्मयीन वाद - संपा. सिताराम रायकर, पंडित टापरे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – तिसरे

अभ्यासपत्रिका : X – सामाजिक भाषाविज्ञान

उद्दिष्टे

सामाजिक भाषाविज्ञान या अध्ययनक्षेत्राचा परिचय करून देणे.
सामाजिक भाषाविज्ञान पायाभूत संकल्पनांचा अभ्यास व्हावा.
समाजातील लिंगभेदाचा भाषेवर होणारा परिणाम जाणून घेणे.
भाषा, विचारआणि संस्कृतीयांच्या अनुबंधाचाअभ्यास व्हावा.

उपयोगिता

सामाजिक भाषाविज्ञान या अभ्यासशाखेचा परिचय होईल
भाषा आणि सामाजिक व्यवहार यातील आंतरसंबंधांचा अभ्यास होईल.
संदर्भानुसार व परिस्थितीनुसार भाषेत दिसून येणाऱ्या भेदांचा अभ्यास होईल.
सामाजिक संज्ञापन प्रक्रियेतील भाषासंपर्काचे स्वरूप कळेल.

अभ्यास घटक:

सामाजिक भाषाविज्ञान : स्वरुप आणि विस्तार
सामाजिक भाषाविज्ञान : पायाभूत संकल्पना
भाषा आणि समाज
भाषा आणि लिंगभेद
भाषा, विचार आणि संस्कृती
भाषा – संपर्क

संदर्भग्रंथ

सामाजिक भाषाविज्ञान - डॉ. रमेशधोंगडे

सामाजिक भाषाविज्ञान - संपा. डॉ. जयश्री पाटणकर
दखनीभाषा : म-हाटीसंस्कृतीचाएकआविष्कार – श्री. रं. कुलकर्णी
बोली: समाज, साहित्य आणि संस्कृती – कैलास सार्वेकर
व-हाड इतिहास आणि बोली – विठ्ठल वाघ
भारतीय भाषांचे लोकसर्वेक्षण, मुख्य संपादक : डॉ. गणेश देवी महाराष्ट्रातील बोलींचे संपादक : अरुण जाखडे
भाषाचिंतन - केशव सखाराम देशमुख
समाजभाषाविज्ञानः प्रमुख संकल्पना – वरखेडे, डॉ रमेश,
भाषा आणि संस्कृती – कालेलकर, डॉ ना. गो.
भाषाः इतिहास आणि भूगोल- कालेलकर, डॉ ना. गो.
सामाजिक भाषाविज्ञान - जोशी, डॉ प्रभाकर, गोखले डॉ चारुता
वैखरीः भाषा आणि भाषाव्यवहार – केळकर, डॉ अशोक
भयंकर सुंदर मराठी भाषा - पुंडे, द. दि.
बेलभाषा - बेलवलकर सुमन
मराठवाडा सीमाभागातील बोली व संस्कृती- प्राचार्य डॉ आशा मुंडे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – तिसरे
अभ्यासपत्रिका : XI - **साठोत्तरी वाङ्मयीन प्रवाह (ऐच्छिक)**

उद्दिष्टे

साहित्यप्रवाहाची संकल्पना समजून घेणे
साहित्यप्रवाहांच्या मूल्यमापनाचा दृष्टीकोण विकसित करणे
विविध साहित्य प्रवाहांची ओळख करून घेणे
साहित्यचळवळींच्या उदयाची कारणमीमांसा करणे
साहित्यप्रवाहाविषयी उपलब्ध आलोचनेचा परिचय करून देणे

उपयोगिता

साहित्य प्रवाहाच्या संकल्पनेची ओळख होईल.
विविध साहित्य प्रवाह आणि साहित्यिक यांचे मूल्यमापन कसे करावे याबाबत दृष्टीकोन विकसित होईल.
विशिष्ट लेखकाची स्थाननिश्चिती कशी करावी याचे आकलन होईल.
साहित्य चळवळीच्या उद्याची कारणमीमा करता येईल.
विशिष्ट लेखकांचे योगदान तपासता येईल.

अभ्यास घटक

साहित्यप्रवाह : संकल्पना आणि स्वरूप, व्याप्ती व मर्यादा.
साहित्यप्रवाह : उदयाची कारणे.
मराठी साहित्य प्रवाहांचा परिचय : नवसाहित्य, महानगरीय साहित्य, आंबेडकरवादी साहित्य, ग्रामीण साहित्य, स्त्रीवादी साहित्य, जैन साहित्य, ख्रिस्ती साहित्य, मुस्लिम साहित्य, जनसाहित्य, मार्क्सवादी साहित्य, विज्ञान साहित्य, कामगारांचे साहित्य, भटक्या विमुक्तांचे साहित्य इ.

पुढील साहित्यकृतींचा अभ्यास अपेक्षित आहे

आंबेडकरवादी साहित्य - त्र्यंबक सपकाळे – सुरुंग (कवितासंग्रह)
ग्रामीण साहित्य – भास्कर चंदनशिव - भिंगुळवाणा (स्फुट लेख)
मुस्लिम साहित्य - सय्यदभाई – दगडावरची पेरणी (कार्यकथन) (स्थूलवाचन)
भटक्या विमुक्तांचे साहित्य – रावजी राठोड - गोठण (कादंबरी) (स्थूलवाचन)
महानगरी साहित्य – राजीव नाईक - मोकळा (कथासंग्रह) (स्थूलवाचन)

संदर्भग्रंथ

साठोत्तरी मराठी वाङ्मयातील प्रवाह – शरणकुमार लिंबाळे
साहित्य व सामाजिक संदर्भ – रा. ग. जाधव
साहित्याचे सामाजिक व सांस्कृतिक अनुबंध – म. सु. पाटील
साहित्य: प्रकृती आणि प्रवृत्ती – गंगाधर पानतावणे
मराठी साहित्य: इतिहास आणि संस्कृती – वसंत आबाजी डहाके
सांस्कृतीक प्रवाहांची स्त्रीवादी समीक्षा – वंदना महाजन
साहित्यातील नवप्रवाह – (संपा) सुजाता चव्हाण, आरेफ शेख, विद्यादेवी कांबळे
आंबेडकरी साहित्यातील जीवनमूल्ये – अशोक इंगळे
धर्म ख्रिस्ताचा, विचार साहित्याचा – सुनील आढाव
वाङ्मयीन प्रवृत्ती: तत्वशोध – केशव मेश्राम, पी. विठ्ठल, ऋषिकेश कांबळे, ललित अधाने
साहित्य आणि अस्तित्वाभान – दिलीप पुरुषोत्तम चित्रे
साहित्य, समाज आणि संस्कृती – (संपा) मनोहर जाधव, केशव देशमुख, ऋषिकेश कांबळे
मुस्लिम मराठी साहित्य – अक्रम पठाण
मुस्लिम मराठी साहित्य: परंपरा स्वरूप आणि लेखकसूची – फ. म. शहाजिंदे
ग्रामीण साहित्य : स्वरूप आणि शोध – नागनाथ कोत्तापल्ले
ग्रामीण साहित्य : लेखिकांची निर्मिती – प्रतिमा इंगोले
ग्रामीण साहित्य आणि संस्कृती – मोहन पाटील
ग्रामीण साहित्य – रा. रं. बोराडे
ग्रामीण साहित्य : स्वरूप व दिशा – वासुदेव मुलाटे
ग्रामीण साहित्य: एक चिंतन – द. ता. भोसले
आंबेडकरी चळवळ – य. दि. फडके
डॉ. बाबासाहेब आंबेडकर – धनंजय कीर
आंबेडकरी जलसे – भगवान ठाकूर
आंबेडकरी चळवळीचे अंतरंग – अर्जुन डांगळे

साहित्यचिंतन - जनार्दन वाघमारे
सृष्टी, सौंदर्य आणि साहित्यमूल्ये - शरदचंद्र मुक्तिबोध
दलित वाङ्मय : प्रेरणा व प्रवृत्ती - शंकरराव खरात
निळी पहाट : रा. ग. जाधव जाधव
दलित साहित्य : उगम आणि विकास - योगेंद्र मेश्राम
साहित्यातील प्रकाशधारा - डॉ निर्मलकुमार फडकुले
दलित शाहिरी - महेंद्र गायकवाड
दलित साहित्य : एक आकलन - बाळकृष्ण कवठेकर
मराठी कथा: प्रवृत्ती आणि प्रवाह – रा. गो. चावरे
विद्रोहाचे पाणी पेटले आहे - रा. ग. जाधव
साहित्य व सामाजिक संदर्भ - रा. ग. जाधव
साठोत्तरी साहित्य प्रवाह - प्रल्हाद लुलेकर
दलित नाटक: प्रेरणा आणि विकास- शैलेश त्रिभुवन
ग्रामीण साहित्य : स्वरूप व दिशा - वासुदेव मुलाटे
ग्रामीण साहित्य : स्वरूप व शोध - नागनाथ कोतापल्ले
मराठी साहित्य : समाज आणि संस्कृती -आनंद यादव
भूमी आणि भूमिका - भास्कर चंदनशिव
ग्रामीण कथा : स्वरूप आणि विकास- वासुदेव मुलाटे
ग्रामीण आणि नागरी समकालीन साहित्य : प्रवृत्ती आणि प्रवाह कुलकर्णी : द.भि. कुलकर्णी अभिनंदन ग्रंथ - संपा. मृणालिनी पाटील व इतर
दलित साहित्य चिकित्सा - सदा कराडे
दलित साहित्य : चिंता आणि चिंतन - गंगाधर पानतावणे
दलित साहित्य : सिद्धान्त आणि स्वरूप - यशवंत मनोहर
दलितांची आत्मकथने :संकल्पना आणि स्वरूप - वासुदेव मुलाटे
दलित साहित्याची स्थितीगती : केशव मेश्राम
आदिवासी साहित्य :स्वरूप आणि समीक्षा- विनायक तुमराम
दलित कवितेतील नवे प्रवाह - महेंद्र भवरे
ग्रामीण साहित्य : प्रेरणा आणि प्रयोजन - श्रीराम गुंदेकर
ग्रामीण साहित्य स्वरूप आणि समस्या - गो म.कुलकर्णी
जनसाहित्य - सुभाष सावरकर
मूल्यशोध - मोतीराम कटारे

आंबेडकरी कविता – (संपा) पद्माकर तामगाडगे
फुले आंबेडकरी प्रेरणेचे नवे कवी नवे आकलन – मोतीराम कटारे
सर्वदर्शी डॉ. बाबासाहेब आंबेडकर – संपादक: डॉ. पी. विठ्ठल, डॉ. नागोराव कुंभार
१९८० नंतरचे मराठी साहित्य: स्वरूप आणि समीक्षा- संपा. डॉ जयद्रथ जाधव/ डॉ भरत देशमुख, प्रत्यय- फ.म.शहाजिंदे
मुस्लिम मराठी साहित्य प्रेरणा आणि स्वरूप- प्रा.फ.म.शहाजिंदे/डॉ.फारूक तांबोळी
मराठवाड्याची ग्रामीण कथा - डॉ.जयदेवी पवार, सुविधा प्रकाशन सोलापूर.
१९९१ नंतरचे, ग्रामीण साहित्य स्वरूप आणि संदर्भ- संपा. डॉ.जयद्रथ जाधव/ प्रा.चंद्रकांत शेरखाने, साहित्य दर्पण - डॉ.भालचंद्र शिंदे
नवदोत्तरी मराठी: रंग आणि अंतरंग – रा. गो. चावरे
भटक्या विमुक्ताची आत्मकथने स्वरूप आणि संकल्पना- डॉ.अंकुशकुमार चव्हाण
मूल्यवेधी सम्यक समीक्षा – सा. द. सोनसळे
आंबेडकरी चळवळ आणि दलित साहित्य – कीर्तीकुमार मोरे
साहित्यातील जाणीवा स्वरूप आणि विश्लेषण- कीर्तीकुमार मोरे
आदिवासी: समाज, संस्कृती आणि साहित्य – (सं) वैजनाथ अनमुलवाड

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम. ए. द्वितीय वर्ष अभ्यासक्रम

जून २०२० पासून

सत्र – तिसरे

अभ्यासपत्रिका : XI – **लोकसंस्कृती व मराठी लोकसाहित्य (ऐच्छिक)**

उद्दिष्ट्ये

लोकसंस्कृतीचे स्वरूप समजून घेणे.

समाज आणि लोकसंस्कृतीचा अभ्यास करणे.

बोलींचा आणि सांस्कृतिक परंपरांचा अभ्यास करणे.

लोकतत्वे समजून घेणे.

उपयोगिता

विद्यार्थ्यांना साहित्य आणि संस्कृतीचे वैभव समजून घेता येईल.

लोकसाहित्यातील समाजवास्तवाचा परिचय होईल.

लोकजीवनाकडे पाहण्याची नवी दृष्टी मिळेल.

लोकसंस्कृतीशी परिचय होईल.

लोकसंस्कृतीचे वेगळेपण कळून येईल.

घटक

लोकसंस्कृतीः संकल्पना

लोकसाहित्य : संकल्पना

मराठी लोकसंस्कृती आणि मराठी लोकसाहित्य: अनुबंध

लोकसाहित्य आणि अन्य अभ्यासशाखा

लोकसाहित्याचे प्रकार – लोकगीत. लोककथा, लोकनाट्य

अंतर्गत मुल्यांकन - विद्यार्थ्यांनी आपल्या गावातील एखादी लोककथा अथवा लोकगीत संकलित करून आणावे.

संदर्भग्रंथः

लोकसाहित्याची रूपरेखा – दुर्गा भागवत

लोकसाहित्याचे स्वरूप – प्रभाकर मांडे

लोकसाहित्याचे अंत:प्रवाह – प्रभाकर मांडे

लोकसाहित्य मीमांसा – विश्वनाथ शिंदे

लोकसाहित्य: शोध आणि समीक्षा – रा. चिं. ढेरे
मराठी लोककथा – मधुकर वाकोडे
लोकसाहित्याचे संशोधन – भाऊसाहेब गमे, धनराज धनगर
सीमा प्रदेशातील लोकगीते : आकलन व अभ्यास – भगवान दिरंगे
सण उत्सवाची गाणी- चत्रभूज कदम
लोकसाहित्याचे अंतरंग – रमेश कुबल
लोकसाहित्य : उगम आणि विकास - शरद व्यवहारे
लोकसाहित्य : संकल्पना व स्वरूप : शरद व्यवहारे
लोकरंगभूमी - प्रभाकर मांडे लोकसंस्कृतीचे उपासक - रामचंद्र चिंतामण ढेरे
धर्म आणि लोकसाहित्य - रामचंद्र चिंतामण ढेरे
लोकसाहित्य मीमांसा - भाग १ व २ - डॉ विश्वनाथ शिंदे
लोकसाहित्याचा क्षेत्रीय अभ्यास - गंगाधर मोरजे
लोकसाहित्य शब्द आणि प्रयोग : तारा भवाळकर
लोकनागर रंगभूमी- तारा भवाळकर
लोकसाहित्य संशोधन पद्धती - अनिल सहस्त्रबुद्धे
मराठी लोककथा - मधुकर वाकोडे
सीमावर्ती लोकगीते : आस्वाद आणि आकलन - विठ्ठल जंबाले
गोंधळयाचे लोकसाहित्य : धोंडीराम वाडकर
मोरजाई - धोंडीराम वाडकर
मसणजोग्याचे लोकजीवन - धोंडीराम वाडकर
लोकसाहित्य: जीवनकला – माहेश्वरी गावित
आदिम जीवनाविष्कार – माहेश्वरी गावित
लोकसाहित्य लोकसंस्कृती – विद्या व्यवहारे
पारंपरिक नाट्यरूप: लोकोत्सव- संजय देशमुख
लोकसंस्कृती: बंध- अनुबंध - डॉ.द.ता.भोसले
लोकसंस्कृती: स्वरूप आणि विशेष- डॉ.द.ता.भोसले

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम. ए. द्वितीय वर्ष अभ्यासक्रम

जून २०२० पासून

सत्र – तिसरे

अभ्यासपत्रिका : XII - **एका लेखकाचा अभ्यास - मध्ययुगीन - संत तुकाराम (ऐच्छिक)**

उद्दिष्टे

मध्ययुगीन मराठी साहित्याच्या निर्मिती काळातील राजकीय, सामाजिक, संस्कृतिक आणि धार्मिक परिस्थितीचे अवलोकन व्हावे

मध्य काळातील संतांचे चरित्र ज्ञात व्हावे

अभंग वांङ्मय प्रकाराचा परिचय घडावा

संत तुकारामांच्या अभंग रचनेतील वैविध्यपूर्णतेची माहिती करून देणे

उपयोगिता

संत तुकारामांच्या समकालीन समकालीन परिस्थितीचे अवलोकन होईल

संत तुकारामांचे चरित्रात्मक माहिती प्राप्त होईल.

अभंग या काव्य छंद प्रकाराचा परिचय मिळेल.

संत तुकारामांच्या अभंग रचनेतील वैविध्यपूर्णतेचा परिचय होईल.

मध्ययुगीन मराठी कवितेचे निखळ सौंदर्य समजावून देणे शक्य होईल होईल.

अभ्यास घटक

संत तुकाराम यांचे जीवन चरित्र

संत तुकाराम यांच्या लेखनाच्या प्रेरणा, स्वरूपविशेष

संत तुकाराम यांच्या कवितेचे योगदान

नेमलेले पुस्तक -

आनंदाचा डोह – रा. ग. जाधव

संदर्भ ग्रंथ

श्री सकल संत अभंग गाथा

प्राचीन मराठी वाड्मयाचा इतिहास - संपा. अ.ना. देशपांडे

प्राचीन मराठी वाङ्मयाचे स्वरूप - ह.श्री. शेनोलीकर

पाच भक्तिसंप्रदाय - र . रा. जोशी

विद्रोही तुकाराम - आ.ह. साळुंखे
संत पंत व तंत - श्री म माटे
तुकाराम - भालचंद्र नेमाडे
युगपुरुष तुकाराम - किशोर सानप
समग्र तुकाराम दर्शन - किशोर सानप
पुन्हा तुकाराम - दिलीप पुरुषोत्तम चित्रे
तुकाराम व्यक्तित्व आणि कवित्व - किशोर सानप, मनोज तायडे
तुका संदेश – विठ्ठल जंबाले
संतकवी तुकाराम - निर्मलकुमार फडकुले
पाच संत कवी - डॉ शं गो तुळपुळे
संत वाङ्मयाची सामाजिक फलश्रुती -गं. बा. सरदार
मराठी संतांचे सामाजिक कार्य - वि. भि. कोलते
मराठी संत मंडळाचे ऐतिहासिक कार्य - बा.र. सुंखठनकर
संत तुकाराम चरित्र - ल.रा.पांगारकर
संत तुकाराम: एक चिंतन - निर्मलकुमार फडकुले
संत साहित्याची संकल्पना - डॉ.व.दि.कुलकर्णी

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम. ए. द्वितीय वर्ष अभ्यासक्रम

जून २०२० पासून

सत्र – तिसरे

अभ्यासपत्रिका : XII - **एका लेखकाचा अभ्यास - आधुनिक - नागनाथ कोत्तापल्ले (ऐच्छिक)**

उद्दिष्टे

लेखकाच्या व्यक्तिमत्त्वाची जडणघडण, लेखकाची वाङ्मयीन निर्मिती, प्रेरणा व समकालीन सांस्कृतिक व वाङ्मयीन वातावरण समजून घेणे आणि त्यांच्या परस्पर संबंधाचा शोध घेणे.

एकाच लेखकाच्या विविध वाङ्मयीन प्रकारांतून प्रकटणाऱ्या वाङ्मयीन व्यक्तिमत्त्वाचा शोध घेणे.

लेखकाची वैविध्यपूर्ण निर्मिती व त्याचे वाङ्मयातील योगदान याचा विचार करणे.

लेखकाचे जीवनविषयक तत्त्वज्ञान व त्याचे साहित्यसंस्कृतीमधील आविष्कार याची संगती लावणे.

लेखकाची वाङ्मयीन दृष्टी व त्याची साहित्यदृष्टी यातील अनुबंध शोधणे.

लेखकाच्या साहित्यकृतीचे आकलन, आस्वाद व मूल्यमापन करणे.

उपयोगिता

लेखकाच्या साहित्यकृतीचे आकलन व आस्वाद घेण्यास मदत होते.

लेखकाच्या लेखनशैलीचे स्वरूप समजून घेण्यास मदत होते.

कथा आणि कादंबरी यांच्या अभ्यासातून जीवनदर्शन व समाजदर्शन घडते.

समीक्षाग्रंथातून लेखकाची वाङ्मयविषयक व साहित्यविषयक दृष्टी समजून घेता येते.

नवोदित लेखकांना लेखनविषयक प्रेरणा व दिशा मिळते.

अभ्यासघटक

नागनाथ कोत्तापल्ले यांचे लौकिक आणि वाङ्मयीन व्यक्तिमत्व

मराठवाडा आणि नागनाथ कोत्तापल्ले

नागनाथ कोत्तापल्ले यांचे कविता, कथा, कादंबरी व वैचारिक लेखन

पुढील साहित्यकृतींचा विशेष अभ्यास

१. सावित्रीचा निर्णय (कथासंग्रह)

२. गांधारीचे डोळे (कादंबरी)

(वरील दोन अभ्यासग्रंथ सत्रांत परीक्षेसाठी)

३. उद्याच्या सुंदर दिवसासाठी (हा वैचारिकलेख संग्रह अंतर्गत मूल्यमापनासाठी आहे.)

४. मूडस् (कवितासंग्रह – स्थूलवाच)

५. साहित्याचा अन्वयार्थ (समीक्षाग्रंथ – स्थूलवाचन)

संदर्भग्रंथ

नागनाथ कोत्तापल्ले : साहित्य आणि समीक्षा – शंकर राऊत
नागनाथ कोत्तापल्ले: साहित्य, स्वरूप आणि समीक्षा – तुषार चांदवडकर, पृथ्वीराज तौर
डॉ. नागनाथ कोत्तापल्ले : व्यक्ती आणि वाङ्मय – प्रा. शैलेश त्रिभुवन
ग्रामीण साहित्य : स्वरूप आणि समीक्षा – आनंद यादव
समकालीन साहित्य चर्चा – संपा. डॉ. मनोहर जाधव,
ग्रामीण साहित्य : प्रेरणा आणि प्रयोजन – श्रीराम गुंदेकर
मराठवाड्याची कथा – संपा. वासुदेव मुलाटे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम. ए. द्वितीय वर्ष अभ्यासक्रम

जून २०२० पासून

सत्र – चौथे

अभ्यासपत्रिका : XIII - **समीक्षापद्धती आणि साहित्य संशोधन**

उद्दिष्टे

साहित्य कलाकृतीचे योग्य मूल्यमापन करणे.

साहित्य समाज आणि संशोधनाचा अनुबंध लक्षात घेऊन योग्य मूल्यमापन आणि सत्यशोधन करणे.

भूतकाळ आणि वर्तमान काळाच्या पार्श्वभूमीवर योग्य मूल्यमापन, सत्यशोधन, कार्यकारण संबंध आणि दृश्य बदलाचा अभ्यास करणे

समाजातील सामाजिक संदर्भ आणि ऐतिहासिक सत्य, तसेच ऐतिहासिक घटना व प्रतिभा ज्ञानाचा आकलन करून घेणे

प्रतिभाविज्ञानाचे आकलन करून घेणे

उपयोगिता

विविध प्रकारच्या साहित्य आणि भाषिक आकलन व अभ्यासासाठी पूरक.

साहित्य समाज संस्कृती आणि वांग्मयीन प्रवाह प्रवृत्ती यांच्या सखोल आणि परिपूर्ण अध्ययन-अध्यापन आणि समीक्षा व संशोधनासाठी महत्त्वाचे आहे

समीक्षा व संशोधन संदर्भात सत्यशोधन व मूल्यमापन करण्यासाठी आवश्यकता

साहित्यिक कलावंत समाज आणि संस्कृती यांचा अनुबंध लक्षात घेण्यासाठी साहित्य व संशोधन पद्धतींची गरज महत्वाची ठरते.

अभ्यास घटक

साहित्य समीक्षा: स्वरूप क कार्य

अ. समीक्षा पद्धती

समाजशास्त्रीय अभ्यास पद्धती

चरित्रात्मक अभ्यास पद्धती

मानसशास्त्रीय अभ्यास पद्धती

आस्वादात्मक अभ्यास पद्धती

ब. साहित्य संशोधन पद्धती

सर्वेक्षण अथवा वर्णनात्मक अभ्यास पद्धती

तुलनात्मक अभ्यास पद्धती

ऐतिहासिक अभ्यास पद्धती

प्रायोगिक पद्धती

संदर्भ ग्रंथ

साहित्याचे तत्वज्ञान – वि. ना. ढवळे

साहित्यातील संप्रदाय – रा. शं.वाळिंबे

मार्क्सवादी साहित्यविचार – के. रं. शिरवाडकर

मराठी टीका – वसंत दावतर

समीक्षेची नवी रूपे – गंगाधर पाटील

समीक्षेतील नव्या संकल्पना – (संपा) डॉ. मनोहर जाधव

स्त्रीवाद आणि मराठी साहित्य – वंदना महाजन

वाङ्यीन वाद : संकल्पना व स्वरूप – (संपा) प्रा. सीताराम रायकर आणि इतर

उत्तर आधुनिकतावाद : समकालीन साहित्य, समाज व संस्कृती – बी. रंगराव

बालसाहित्य : आकलन आणि समीक्षा – विद्या सुर्वे बोरसे

समीक्षा: प्रयोजन आणि कार्य- अनिल सहस्रबुद्धे

काव्याची भूषणे - म.वा.धोंड, पद्मगंधा प्रकाशन पुणे

मूल्यवेधी सम्यक समीक्षा – सा. द. सोनसळे

स्त्रीवाद आणि समाज परिवर्तन – वंदना महाजन

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – चौथे
अभ्यासपत्रिका : XIV – **मध्ययुगीन मराठी वाडमयाची सांस्कृतिक पार्श्वभूमी**

उद्दिष्ट्ये

मध्ययुगीन मराठी साहित्याचा परिचय करून देणे मराठी संस्कृतीची ओळख करून देणे
विविध साहित्य कालखंडातील विविध प्रवाह प्रवृत्ती आणि प्रेरणा यांचा परिचय करून देणे
राजकीय, सामाजिक आणि सांस्कृतिक स्थित्यंतराची माहिती देणे.
क्रमाक्रमाने साहित्याची निर्मिती कशी झाली याची माहिती करून देणे.
काळाची वैशिष्ट्ये समजून घेणे.

उपयोगिता

संस्कृती अभ्यासाची संकल्पना स्पष्ट होईल.
संस्कृती आणि साहित्य यांचे अन्योन्य संबंध लक्षात येतील.
साहित्याच्या आधारे संस्कृतीचे नवे विश्लेषण करण्याचा दृष्टीकोन विकसित होईल.
साहित्यनिर्मितीच्या बदलत्या प्रेरणा कळून येतील.
राजसत्तेचे साहित्यावर होणारे परिणाम लक्षात येतील.

अभ्यास घटक:

संस्कृती म्हणजे काय? व्याख्या आणि स्वरूप
संस्कृतीच्या अभिव्यक्तीचे भाषिक रूप
साहित्यनिर्मितीच्या प्रेरणा – यादवकाळ, बहामनिकाळ,शिवकाळ, पेशवेकाळ.
मध्ययुगीन राजवट आणि मराठी साहित्य व्यवहार
भक्ती चळवळी – नाथ, महानुभाव, भागवत, समर्थ, वीरशैव, दत्त, आनंद इ
मुस्लीम मराठी संत, ख्रिस्ती मराठी संत, जैन संत कवी
पर्यावरण विचार, मध्ययुगीन गद्य व पद्य रचनाबंध

संदर्भग्रंथ

मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी- गो. म. कुलकर्णी
अर्वाचीन मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी- सदा कऱ्हाडे
आधुनिक मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी- दत्ता भगत
कला, साहित्य व संस्कृती- रा.ग.जाधव
वाङ्मयीन संस्कृती- सुधीर रसाळ
भाषा, साहित्यकला आणि संस्कृती - सदा कऱ्हाडे
सांकृतिक मूल्यवेध- रा.ग.जाधव
साहित्य, समाज आणि संस्कृती- दिगंबर पाध्ये
भारतीय संदर्भातून स्त्रीवाद- शोभा नाईक
आधुनिक मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी- नरेंद्र मारवाडे
साहित्याचे सांस्कृतिक संचित - प्रल्हाद लुलेकर/ केशव तुपे
मराठी साहित्याचा सांस्कृतिक संदर्भ - रा.ग.जाधव
सांस्कृतिक परिप्रेक्षातून साहित्य – केशव तुपे
महानुभावसाहित्य: शोधसंचार - डॉ. अविनाशआवलगावकर
संतसाहित्य : आकलनआणिअध्यापन - डॉ. अविनाशआवलगावकर
मराठीजैनसाहित्यस्वरुपआणिआकलन प्रा. डॉ. अलका वालचाळे- सरोदे
साहित्य , संस्कृती आणि समाज प्रबोधन – संपादक- योगेंद्र मेश्राम, दत्ता भगत, सतीश बडवे
संतांची कथाकविता – र. बा. मंचरकर
मराठी ख्रिस्ती वाङमायाचा इतिहास - ख्रिस्ती साहित्य सेवा मंडळ
मराठी संतांचे सामाजिक कार्य- डॉ.विष्णू भिकाजी कोलते
संत तुकाराम चरित्र- ल.रा.पांगारकर,वरदा प्रकाशन पुणे.
महानुभाव साहित्यातील स्त्री प्रतिमा- डॉ.संजय जगताप
लीळाचरित्र संशोधन आणि समीक्षा-संपा.अविनाश अवलगावकर

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – चौथे
अभ्यासपत्रिका : XV - **मराठी वैचारिक साहित्य (ऐच्छिक)**

उद्दिष्टे

मराठी वैचारिक साहित्याच्या अभ्यासाची आवड निर्माण करणे.
साहित्य परंपरांची ओळख निर्माण करून देणे.
वैचारिक साहित्याचे स्वरूप समजावून घेणे.
साहित्याच्या निर्मितीमागील प्रेरणा, प्रयोजन विशेषांची माहिती देणे.
समकालीन राजकीय, धार्मिक,, सामाजिक व सांस्कृतिक संघर्षाच्या चळवळी आणि वैचारिक साहित्य यातील अनुबंध शोधणे.
वैचारिक साहित्यातील वाङ्मयीन महात्म्याची चर्चा करणे
वैचारिक साहित्याचे मूल्यमापन करणे

उपयोगिता

मराठी विषयाच्या प्रस्तुत अभ्यासक्रमातून वैचारिक प्रगल्भता निर्माण होते
सामाजिक धार्मिक, सांस्कृतिक सोहार्द टिकविण्यासाठी दृष्टी प्राप्त होण्यास मदत.
वैचारिक वाङ्मयातील समृद्ध परंपरेचे आकलन होईल.
वैचारिक मतवैचित्र्यांची चिकित्सा करण्यास दिशा मिळेल.
स्वातंत्र्य, समता, बंधुता व न्याय या आदर्शमूल्यांच्या उपयोजनाची जाणीव.
वैचारिक प्रगल्भतेमुळे अभ्यासकांचे सामर्थ्य आणि मर्यादा कळण्यास मदत होईल.
नवोदितांना वैचारिक साहित्य लेखनाची प्रेरणा मिळेल.

अभ्यास घटक

वैचारिक साहित्याची संकल्पना
मराठी वैचारिक साहित्याची परंपरा

महत्वाच्या विचारवंतांचा स्थूल परिचय
खालील कलाकृतींचा अभ्यास अपेक्षित आहे
शतपत्रे – लोकहितवादी
शेतकरी चळवळ – श्रीकांत सोळंके
शिवरात्र – नरहर कुरुंदकर (स्थूलवाचन)
अनंत पैलूंचा सामाजिक योद्धा: दलितेतरांसाठी डॉ बाबासाहेब आंबेडकर – प्रल्हाद लुलेकर (स्थूलवाचन)
स्त्रिया: समाज आणि राजकारण – भारती पाटील (स्थूलवाचन)

संदर्भ ग्रंथ

प्रबोधानातील पाऊलखुणा – निर्मलकुमार फडकुले
व्यक्ती आणि विचार – य. दि. फडके
प्रबोधनविचार – यशवंत मनोहर
परिवर्तनवादी चळवळी- (सं) राजशेखर सोलापुरे, जयद्रथ जाधव
आस्थेचे प्रश्न – रंगनाथ पठारे
जातक – प्रल्हाद लुलेकर
वैज्ञानिक दृष्टीकोन आणि आपण – सुधीर पानसे
संस्कृती समाज आणि साहित्य – के. रं. शिरवाडकर
आधुनिक मराठी वाङ्मयाचा इतिहास - संप. रा. श्री. जोग व इतर (म. सा. प. पुणे)
गतशतक शोधताना - स. ग. मालशे
प्रबोधनाचा पूर्वरंग - संप. ल. रा. नासिराबादकर
दलित वैचारिक वाङ्मय – गंगाधर पानतावणे
डॉ. आंबेडकरांचे समाजचिंतन - डॉ. भालचंद्रखडके
प्रबोधन आणि साहित्य - डॉ. चंद्रकांतवाघमारे
मराठीनिबंध - लघुनिबंध : स्वरूप व विवेचन - डॉ. चंद्रकांतदेऊळगावकर
समाज परिवर्तनाच्या दिशा -डॉ. जनार्दनवाघमारे
साहित्यिक यशवंतराव चव्हाण – नानासाहेव पवार
आपले विचारविश्व – के. रं. शिरवाडकर
विचारवंत आणि समाज – अशोक चौसाळकर
कर्तृत्वाचा सह्याद्री- संपा.जनार्दन वाघमारे
शेती, आत्मनाश आणि नवसंजीवन- ना.धों महानोर
शैलीकार यशवंतराव चव्हाण, डॉ.शिवाजीराव देशमुख

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – चौथे
अभ्यासपत्रिका :XV - **तौलनिक साहित्य (ऐच्छिक)**

उद्दिष्ट्ये

तुलनेची संकल्पना लक्षात येईल.
तौलनिक साहित्य ही संकल्पना कळून येईल
भारतीय साहित्याचा परिचय होईल
विश्व साहित्याशी ओळख होईल.
संस्कृती अभ्यासाकडे विद्यार्थ्यांचे लक्ष जाईल.

उपयोगिता

तुलनाकाराचा उदय
नव्या दृष्टीकोनाशी परिचय
भारतीय आणि विश्व साहित्याशी परीचयामुळे आकलन वाढेल.
प्रत्यक्ष तुलना करता येईल.

अभ्यास घटक

तौलनिक साहित्यः संकल्पना
भारतीय साहित्य, राष्ट्रीय साहित्य, विश्वसाहित्यः संकल्पना
तुलनेचे भारतीय सूत्र
एकभाषिक तुलना
बहूभाषिक तुलना
संस्कृती अभ्यास
खालील साहित्यकृतींचा अभ्यास अपेक्षित आहे

१. उत्थानगुंफा – यशवंत मनोहर
२. पाशच्या निवडक कविता – अनुवाद – निरंजन उजगरे

संदर्भ ग्रंथ

तौलनिक साहित्य आणि मध्ययुगीन मराठी वाङ्मय – र. बा. मंचरकर
तौलनिक साहित्य: नवे सिद्धांत आणि उपयोजन – आनंद पाटील
मराठी नाटकांवरील इंग्रजी प्रभाव – आनंद पाटील
तुळव – आनंद पाटील
तुलनात्मक साहित्य – वसंत बापट
निशिकांत मिरजकरांची काव्य समीक्षा: संदर्भ आणि अन्वयार्थ – तुषार चांदवडकर

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – चौथे

अभ्यासपत्रिका : XVI - प्रादेशिक साहित्य (ऐच्छिक)

उद्दिष्टे

प्रादेशिक साहित्याची संकल्पना समजून घेणे
प्रादेशिक साहित्याची वैशिष्ट्ये लक्षात घेणे
प्रादेशिक साहित्याची परंपरा अभ्यासणे
प्रादेशिक साहित्याचा इतिहास समजून घेणे आणि समीक्षा समजून घेणे
प्रादेशिक साहित्यातील साहित्यप्रकारांचा अभ्यास करणे

उपयोगिता

साहित्याचे प्रवाह आणि प्रकार लक्षात येतील.
काळ आणि साहित्यलेखनाचा दृष्टीकोन याबद्दल जाणीव समृद्ध होईल.
महत्वाच्या प्रादेशिक लेखकांच्या लेखनाचा परिचय होईल.
भिन्न भिन्न साहित्य प्रवाहातील कला कृतींमध्ये असणारा भूप्रदेश कसा निराळा असतो हे कळून येईल.
निवडक कलाकृतींचा परिचय होईल.

अभ्यास घटक:

प्रादेशिक साहित्य: संकल्पना
मराठी प्रादेशिक साहित्याचे स्वरूप
प्रदेश: ग्रामीण, आंबेडकरवादी, महानगरी आणि विज्ञान साहित्यातील
निवडक साहित्यकृतींचा अभ्यास
चारापाणी – रा. रं. बोराडे
भुई भुई ठाव दे – सीताराम सावंत
अकसिदीचे दाणे – प्रतिमा इंगोले (स्थूलवाचन)
वाळवाण- रवी राजमाने (स्थूलवाचन)

संदर्भ ग्रंथ

आधुनिक मराठी वाङ्मयाचा इतिहास – अ.ना. देशपांडे
कादंबरी – ल. ग. जोग
ग्रांथिक मराठी भाषा आणि कोंकणी बोली – अ. का. प्रियोळकर
धार आणि काठ – नरहर कुरुंदकर
प्रदक्षिणा - कॉन्टीनेन्टल प्रकाशन, पुणे
मराठी कादंबरीतील प्रादेशिकता – भास्कर शेळके
मराठी प्रादेशिक कादंबरी : स्वरूप आणि विश्लेषण- भास्कर शेळके
आधुनिक मराठी ललित वाङ्मयातील प्रादेशिकता : उद्गम आणि विकास - तोरो आ. रा.
ग्रामीण साहित्य : स्वरूप व शोध - नागनाथ कोतापल्ले
मराठी साहित्य : समाज आणि संस्कृती - आनंद यादव
भूमी आणि भूमिका - भास्कर चंदनशिव

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – चौथे
अभ्यासपत्रिका :XVI - **अमराठी प्रांतातील मराठी साहित्य (ऐच्छिक)**

उद्दिष्टे

बृहन्महाराष्ट्र ही संकल्पना समजून घेणे
मराठी माणसांचा व साहित्याचा भूगोल लक्षात घेणे
अमराठी प्रांतात राहणाऱ्या मराठी लेखकांच्या कार्याचा परिचय करून घेणे
महाराष्ट्र राज्याबाहेरील मराठी संस्कृतींच्या भाषिकरूपांचा अभ्यास करणे
आंतरभारती ही संकल्पना समजून घेणे

उपयोगिता

मराठी साहित्याच्या विस्तारलेल्या परिघाचा परिचय होईल.
मराठी माणूस, मराठी भाषा व मराठी साहित्य यांविषयीचे आकलन समृद्ध होईल.
महाराष्ट्रातील व महाराष्ट्राबाहेरील मराठी साहित्याचे निराळेपण लक्षात येईल.
महाराष्ट्राबाहेरील मराठी संस्कृतीचा परिचय होईल.
महाराष्ट्रापासून दूर प्रांतात सुरु असलेले मराठीविषय कार्य लक्षात येईल.

अभ्यास घटक

महाराष्ट्राबाहेरील मराठी समाजः इतिहास आणि परिचय
मध्ययुगीन काळात अमराठी प्रांतात झालेले साहित्य निर्मितीचे प्रयत्न
आधुनिक काळातील अमराठी प्रांतातील साहित्य निर्मिती
अमराठी प्रांतातून प्रकाशित होणारी मराठी वाङ्मयीन नियतकालिके (पुढील नियतकालिकांचा विस्ताराने अभ्यास अपेक्षित आहे पंचधारा, अनुबंध, नव अनुबंध, एकता, पत्रसारांश, मायबोली)
अमराठी प्रांतातील मराठी साहित्य संस्था व उपक्रम (पुढील साहित्य संस्थांचा व बृहन महाराष्ट्र मंडळाच्या कार्याचा अभ्यास अपेक्षित - मराठी साहित्य परिषद हैदराबाद, मराठी वाङ्मय परिषद बडोदा,

इंदूर, दिल्ली, बिलासपुर, कोलकाता, भोपाळ, वाराणशी, अलिगड, यांच्यासोबत गोवा, कर्नाटक आणि तमीळनाडू राज्यातील मराठी लेखकांची ओळख अपेक्षित आहे.)

भारताबाहेरील देशात होणारी मराठी साहित्य निर्मिती व तिचे वेगळेपण (अमेरिका, रशिया, कॅनडा, मॉरिशस, सिंगापूर, इस्त्राईल इत्यादि देशातील मराठी साहित्य निर्मितीची ओळख.)

विश्व मराठी साहित्य संमेलन, जागतिक मराठी साहित्य परिषद, जागतिक साहित्य संमेलन इत्यादि साहित्य उपक्रमांचा परिचय.

पुढील साहित्यकृतींचा अभ्यास अपेक्षित आहे

१. बृहन्महाराष्ट्रातील मराठी कविता – संपादक – कपूर वासनिक
२. सलत सूर सनईचा- निर्मला देशपांडे
३. बडोदे संस्थानचा साहित्यिक आणि सांस्कृतिक इतिहास – संजयकुमार करंदीकर (स्थूलवाचन)

संदर्भ ग्रंथ

लळित बाळकृष्ण, भैलुमे राजाभाऊ (संपा.), स्मरणिका, आंतरराष्ट्रीय चर्चासत्र, बोरा कॉलेज, शिरुर घोडनदी जिल्हा पुणे, फेब्रूवारी २०१७

महाराष्ट्र कर्नाटक सांस्कृतिक अनुबंध – अ. रा. तोरो

दक्षिण भारतातील मराठी वाङ्मयाचा इतिहास : तंजावर खंड – वसंत जोशी

दक्षिण भारतातील मराठी वाङ्मयाचा इतिहास: आंध्र कर्नाटक खंड – वसंत जोशी, द. दि. पुंडे

तंजावरी राजेभोसले : साहित्य आणि समीक्षा – ईश्वर सोमनाथे

निर्मला देशपांडे: व्यक्तीआणि वाङमय - डॉ. सुनीता सांगोले

निर्मला देशपांडे यांची कादंबरी: आकलन आणि मूल्यमापन - डॉ. सुनीता सांगोले.

विचारवलये-प्रा.भालचंद्र शिंदे

वाड्मय: अनुवेल- डॉ.संजीवकुमार पांचाळ

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
एम. ए. द्वितीय वर्ष अभ्यासक्रम
जून २०२० पासून
सत्र – चौथे
अभ्यासपत्रिका : XVII – **प्रकल्पलेखन (अनिवार्य)**

उद्दिष्टे

संशोधनाची लेखन पद्धती समजून घेणे
प्रत्यक्ष लाघुशोध प्रकल्प सादर करणे
संदर्भाचे महत्व समजून घेणे
शोध निबंध लेखनाचे नियम आत्मसात करणे
टिपणे काढण्याचा पद्धत समजून घेणे

उपयोजन

विद्यार्थ्यांना प्रत्यक्ष लघुप्रकल्प सादर करता येईल.
संशोधनाची पूर्वतयारी होईल
संशोधनाची भाषा विकसित होईल
संशोधनाचा दृष्टीकोन विकसित होईल
विविध संशोधन पद्धतींचे उपयोजन करता येईल.

अभ्यास घटक

प्रकल्पः स्वरुप, कार्यपद्धती, महत्व
संदर्भाचे महत्व
टिपणे काढण्याची पद्धत
शोधनिबंधाची लेखनपद्धती

या अभ्यासपत्रिकेसाठी विद्यार्थ्याने शिक्षकाच्या मार्गदर्शनाखाली एक शोध प्रकल्प सादर करणे बंधनकारक आहे.**(अंतर्गत मूल्यमापनासाठी लेखनपद्धतीच्या अंगाने प्रश्न विचारता येतील. सत्रांत परिक्षेच्या वेळी प्रकल्प दाखल करावा लागेल.)**

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR

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संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदव्युत्तर स्तरावरील प्रथम वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३० एप्रिल २०१९ रोजी संपन्न झालेल्या ४३व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.५/४३–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदव्युत्तर स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

१) एम.ए.–प्रथम वर्ष–इंग्रजी
२) एम.ए.–प्रथम वर्ष–हिंदी
३) एम.ए.–प्रथम वर्ष–मराठी
४) एम.ए.–प्रथम वर्ष–संस्कृत
५) एम.ए.–प्रथम वर्ष–उर्दू
६) एम.ए.–प्रथम वर्ष–अर्थशास्त्र
७) एम.ए.–प्रथम वर्ष–भूगोल
८) एम.ए.–प्रथम वर्ष–इतिहास
९) एम.ए.–प्रथम वर्ष–तत्त्वज्ञान
१०) एम.ए.–प्रथम वर्ष–राज्यशास्त्र
११) एम.ए.–प्रथम वर्ष–मानसशास्त्र
१२) एम.ए.–प्रथम वर्ष–लोकप्रशासन
१३) एम.ए.–प्रथम वर्ष–समाजशास्त्र

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदव्युत्तर–सीबीसीएस अभ्यासक्रम/२०१९–२०/**६७**
दिनांक : १७.०६.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

विषय - मराठी

एम. ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र पहिले

अभ्यासपत्रिका १ (अनिवार्य) - स्वातंत्र्यपूर्व काळातील मराठी वाङ्मयाचा इतिहास (इ. स. १८१८ ते इ. स. १९४७)

अभ्यासपत्रिका २ (अनिवार्य) - ऐतिहासिक भाषाविज्ञान

अभ्यासपत्रिका ३.१ (ऐच्छिक) - वाङ्मयप्रकारांचा अभ्यास : कथा आणि कादंबरी OR

अभ्यासपत्रिका ३.२ (ऐच्छिक) - मराठी भाषा आणि प्रसारमाध्यमे

अभ्यासपत्रिका ४.१ (ऐच्छिक) - लोकप्रिय साहित्य OR

अभ्यासपत्रिका ४.२ (ऐच्छिक) - भाषांतरविद्या

सत्र दुसरे

अभ्यासपत्रिका ५ (अनिवार्य) - स्वातंत्र्योत्तर काळातील मराठी वाङ्मयाचा इतिहास (इ. स. १९४७ ते इ. स. २०१०)

अभ्यासपत्रिका ६ (अनिवार्य) - वर्णनात्मक भाषाविज्ञान

अभ्यासपत्रिका ७.१ (ऐच्छिक) - वाङ्मयप्रकारांचा अभ्यासः कविता आणि नाटक OR

अभ्यासपत्रिका ७.२ (ऐच्छिक) - भाषाव्यवहार आणि उपयोजन

अभ्यासपत्रिका ८.१ (ऐच्छिक) - सामाजिक दृष्टिकोनातून साहित्याचा अभ्यास OR

अभ्यासपत्रिका ८.२ (ऐच्छिक) - मराठी बाल-कुमार साहित्य

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - पहिले

अभ्यासपत्रिका १ (अनिवार्य)

स्वातंत्र्यपूर्व काळातील मराठी वाङ्मयाचा इतिहास

(इ. स. १८१८ ते इ. स. १९४७)

उद्दिष्टे. -

१. मराठी साहित्याचा अभ्यास करण्यासाठी अभिरुची निर्माण करणे
२. आधुनिक मराठी वाङ्मयाच्या इतिहासातील परंपरा समजून घेणे.
३. स्वातंत्र्यपूर्व मराठी वाङ्मयाची वाटचाल अभ्यास करणे.
४. विविध वाङ्मय प्रकारांचा उद्गम आणि विकास कसा झाला याचा मागोवा घेणे.
५. स्वातंत्र्य चळवळींचे पडसाद साहित्यामध्ये कसे उमटले आहेत, याचा शोध घेणे.
६. ब्रिटिश सरकारच्या प्रभावांचा आणि इंग्रजी साहित्याच्या संपर्कातून मराठी साहित्यात कोणती स्थित्यंतरे घडली, याबद्दल साहित्यिक आणि साहित्यकृती यांचे अवलोकन करणे.
७. मराठी भाषा आणि साहित्य यांच्या कालसुसंगत कसे अनुबंध आहेत, यांचे विवेचन करणे.

उपयोगिता

१. मराठी पदव्युत्तर अभ्यासक्रम पूर्ण करताना प्रगल्भ व्यक्तिमत्त्व निर्माण होण्यासाठी मदत..
२. स्पर्धा परीक्षांच्या तयारीसाठी मराठी वाङ्मयाचा अभ्यास उपयुक्त आहे.
३. स्वातंत्र्यपूर्वकालीन सांस्कृतिक, वाङ्मयीन व ऐतिहासिक पार्श्वभूमीचे आकलन.
४. आधुनिक काळातील मराठी वाङ्मयीन वारसा जतन करणे.
५. मराठी लेखनातील ठळक प्रवृत्ती, ग्रंथकार आणि साहित्यकृती या अनुषंगाने साहित्याचा अभ्यास करणे.

अभ्यासघटक

१. इ स १८१८ ते स्वातंत्र्यपूर्व या कालखंडातील स्थित्यंतराच्या पार्श्वभूमीवर साहित्यनिर्मितीच्या प्रेरणा समजून घेणे.

२. प्रस्तुत कालावधीतील सांस्कृतिक आणि वाङ्मयीन पार्श्वभूमी, स्वातंत्र्यलढा आणि वाङ्मयीन चळवळी, प्रसारमाध्यमे आणि वाङ्मय प्रकारांचा उदय, नववर्गाचा उगम आणि इंग्रजी साहित्याचा परिचय, शासकीय पातळीवरून साहित्यनिर्मितीचे प्रयत्न इ. घटकांचा अभ्यास करणे अभिप्रेत आहे.

३. अभ्यास परिपूर्ण होण्यासाठी पुढील वाङ्मय प्रकारनिहाय अभ्यास.....

अ. निबंध

आ. नाटक

इ. कविता

ई. कथा

उ. कादंबरी

ऊ. ललित गद्य (चरित्र, आत्मचरित्र व प्रवासवर्णन)

संदर्भ ग्रंथ

मराठी वाङ्मयाचा इतिहास – महाराष्ट्र साहित्य परिषद, पुणे

मराठी वाङ्मयाचा विवेचक इतिहास – प्र. न. जोशी

अर्वाचीन मराठी साहित्याची सांस्कृतिक पार्श्वभूमी – सदा क-हाडे

मराठी साहित्याची सांस्कृतिक पार्श्वभूमी – गो. म. कुलकर्णी

आधुनिक मराठी वाङ्मयाचा इतिहास – अ. ना. देशपांडे

प्रदक्षिणा – कॉन्टीनेन्टल प्रकाशन, पुणे

मराठी कादंबरी पहिले शतक – उषा हस्तक

धार आणि काठ – नरहर कुरुंदकर

मराठी कथा उद्गम आणि विकास – इंदुमती शेवडे

मराठी वृत्तपत्रांचा इतिहास – वा. के. लेले

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - पहिले

अभ्यासपत्रिका २ (अनिवार्य)

ऐतिहासिक भाषाविज्ञान

उद्दिष्टे

१. भाषाविज्ञान ही संकल्पना समजून घेणे.
२. भाषेचा इतिहास समजून घेणे.
३. भाषेच्या शास्त्रशुद्ध अभ्यासाचे इतिहासातील प्रमुख टप्पे लक्षात घेणे.
४. बोलींविषयीचे गैरसमज दूर करणे

उपयोगिता

१. मराठी भाषेचा इतिहास समजून येईल.
२. बोलीविषयीचे गैरसमज दूर होतील
३. भाषा अभ्यासाच्या विविध दृष्टीकोनांचा परिचय होईल.
४. स्वभाषेकडे पाहण्याची नवी दृष्टी विकसित होईल.

अभ्यासघटक

१. भाषाविज्ञानः संज्ञा, व्याख्या. भूमिका, इतिहास, महत्व. प्रमुख प्रवाह.
२. मराठी भाषेची उत्पत्ती व पूर्वपिठिका
३. मराठीचे कालिक आणि प्रांतिक भेद
४. प्रमाणभाषा आणि बोलीः संकल्पना व स्वरुप, साम्यभेद, बोली अभ्यासाची गरज.
५. मराठीच्या प्रमुख बोली
६. मराठी शब्दसंग्रह
७. इतर भाषांचा मराठीवर होणारा परिणाम

संदर्भ ग्रंथ

मराठीचे ऐतिहासिक भाषाशास्त्र – र. रा. गोसावी, सूर्यकांत वैद्य
भाषा आणि भाषाशास्त्र – श्री. न. गजेंद्रगडकर
भाषाविज्ञानः वर्णनात्मक आणि ऐतिहासिक – (संपा) स.ग. मालशे, हे. वि. इनामदार, अंजली सोमण
मराठीचा भाषिक अभ्यास – (संपा) मु. श्री. कानडे
सुलभ भाषाविज्ञान – द. दि. पुंडे
मराठी भाषेचा आर्थिक संसार – अशोक केळकर
ऐतिहासिक भाषाविज्ञान आणि मराठी भाषा – सुवर्णा खोडदे
ग्रामीण कादंबरी: मराठवाडी बोलीचे स्वरूप – विठ्ठल जंबाले

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - पहिले

अभ्यासपत्रिका ३.१ (ऐच्छिक)

वाङ्मयप्रकारांचा अभ्यास : कथा आणि कादंबरी

उद्दिष्टे

1. कथा-कादंबरी या वाङ्मयप्रकारांची ओळख करून देणे.
2. स्वातंत्र्योत्तर काळातील कथा आणि कादंबरीचे स्वरूप-वैशिष्ट्ये सांगणे.
3. निवडक कथाकार आणि कादंबरीकार यांच्या साहित्यकृतींची ओळख करून घेणे
4. कथा आणि कादंबरीचे घटक, विशेष, प्रकार आणि रचनाबंध इ.चा परिचय करून देणे.
5. कथा आणि कादंबरी या वाङ्मयप्रकारांबद्दल अभिरूची विकसित करणे.
6. अभ्यासक्रमातील साहित्यकृतीचे आकलन, आस्वाद व मूल्यमापन करणे.

उपयोगिता

1. कथा आणि कादंबरीच्या अभ्यासातून जीवनदर्शन.
2. समकालीन सामाजिक प्रश्न समजून घेण्यास मदत.
3. लेखकाच्या लेखनशैलीचे स्वरूप समजून घेण्यास मदत.
4. कथा आणि कादंबरी या वाङ्मयप्रकारांविषयी अभिरूची विकसित होण्यास आधार.
5. नवोदित लेखकांना लेखनासाठी प्रेरणा.

अभ्यासघटक

1. कथा आणि कादंबरी व्याख्या, स्वरूप घटक
   (कथानक, पात्र, निवेदन, भाषाशैली, कालखंड इ.)
2. कथा/कादंबरीच्या प्रकारांचा आणि प्रवाहांचा स्थूल परिचय
   (ऐतिहासिक, सामाजिक, राजकीय, ग्रामीण, प्रादेशिक, महानगरीय, स्त्रीवादी, दलित, आदिवासी इ.)

3. अभ्यासाला नेमलेल्या साहित्यकृती

अ.) कथासंग्रह

1. मरण स्वस्त होत आहे - बाबुराव बागूल
2. आलोक - आसाराम लोमटे

ब.) कादंबरी

1. मुंबई दिनांक - अरूण साधू
2. भूमी - आशा बगे

संदर्भग्रंथ :

मराठी कथा : उगम आणि विकास - इंदुमती शेवडे
दलित कथा - गंगाधर पानतावणे
मराठवाड्याची कथा - संपा. वासुदेव मुलाटे
मराठी कथा : प्रवृत्ती आणि प्रवाह - रा.गो. चवरे
कादंबरी : एक साहित्यप्रकार - हरिश्चंद्र थोरात
मराठी कादंबरी : चिंतन आणि समीक्षा - चंद्रकांत बांदिवडेकर
गेल्या अर्धशतकातील मराठी कादंबरी - संपा. विलास खोले
दलित साहित्य : उद्गम व विकास - योगेंद्र मेश्राम
मराठी कादंबरीतील भाषा: आकलन आणि मूल्यमापन – विठ्ठल जंबाले

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - पहिले

अभ्यासपत्रिका ३.२ (ऐच्छिक)

मराठी भाषा आणि प्रसारमाध्यमे

उद्दिष्टे

१. भाषेचे उपयोजन लक्षात आणून देणे
२. मराठी भाषेच्या ऐतिहासिक वाटचालीचे आकलन करणे
३. प्रसारामाध्यमांचे बदलते स्वरूप समजून घेणे
४. मुद्रित, श्राव्य, दृक आणि दृकश्राव्य माध्यमातील भाषेचे स्वरूप लक्षात घेणे

उपयोजन

१. मराठी भाषेची भिन्नस्तरीय उपयोगिता लक्षात येईल.
२. विविध टप्प्यांवरील मराठीच्या बदलांमध्ये प्रसार माध्यमांचे योगदान समजून येईल.
३. प्रसार माध्यामांचा इतिहास लक्षात येईल.
४. विविध प्रसार माध्यमातील प्रत्यक्ष भाषेचे उपयोजन अभ्यासता येईल.

अभ्यासघटक

१. भाषा: संकल्पना
२. मराठी भाषा : वाटचालीचा स्थूल आढावा
३. प्रसारमाध्यमे : संकल्पना व स्वरूप
४. मध्ययुगीन काळातील प्रसारमाध्यमे आणि मराठी भाषेचे उपयोजन
५. आधुनिक काळातील प्रसारमाध्यमे आणि मराठी भाषेचे उपयोजन
६. जागतिकीकरणाच्या काळातील प्रसारमाध्यमे आणि मराठी भाषेचे उपयोजन

संदर्भ ग्रंथ

भाषाचिंतन – केशव सखाराम देशमुख
माध्यम चित्रवाणी – आकाशानंद
संगणक युग – अच्युत गोडबोले
इंटर नेट – प्रबोध चोभे
आकाशवाणी – विश्वकर्मा रासबिहारी
दूरदर्शनसाठी लेखन – केशव केळकर
जाहिरातीचे युग – यशोदा भागवत
व्यावहारिक मराठी – प्रकाश परब
मराठी भाषिक कौशल्ये विकास – (संपा) पृथ्वीराज तौर

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - पहिले

अभ्यासपत्रिका ४.१ (ऐच्छिक)

लोकप्रिय साहित्य

उद्दिष्टे

१. लोकप्रिय साहित्य ही संकल्पना समजून घेणे.
२. वाचकांची अभिरुची आणि साहित्य निर्मिती यांचा अनुबंध स्पष्ट करणे.
३. लोकप्रिय साहित्य, अभिजात साहित्य आणि श्रेष्ठ साहित्य यातील सीमारेषांचा करणे.
४. मराठीतील लोकप्रिय साहित्याचा परिचय करून घेणे.

उपयोजन

१. लोकप्रिय साहित्य या संकल्पनेविषयी गैरसमज दूर होतील.
२. लोकप्रिय आणि बाजारू यातील अंतर लक्षात येईल.
३. श्रेष्ठ अभिजात साहित्याची लोकप्रियता आणि तिचे निराळेपण समजून येईल.
४. मराठी समाजाच्या अभिरुचीचे आकलन होईल.

अभ्यासघटक

१. लोकप्रिय साहित्य : संकल्पना व बदलते स्वरूप
२. लोकप्रियता : अभिजात साहित्य, श्रेष्ठ साहित्य, कलात्मक साहित्य आणि बाजार
३. वाचकांच्या अभिरुचीचा दबाव, प्रकाशकांची मागणी, प्रसार माध्यमांची अंगभूत वैशिष्ट्ये आणि साहित्याची निर्मिती प्रक्रिया

४. मराठी लोकप्रिय साहित्याची परंपरा व लोकप्रिय साहित्याचे प्रकार

५. पुढील साहित्यकृतींचा अभ्यास अपेक्षित आहे

अ. फकिरा – अण्णा भाऊ साठे

आ. बटाट्याची चाळ – पु. ल. देशपांडे

इ. तुझे गीत गाण्यासाठी – मंगेश पाडगावकर

ई. इडली, ऑर्किड आणि मी – विठ्ठल कामत

संदर्भ ग्रंथ

साहित्याचा अवकाश – नागनाथ कोत्तापल्ले
कादंबरी आणि मराठी कादंबरी – उषा हस्तक
टीकास्वयंवर – भालचंद्र नेमाडे
धार आणि काठ – नरहर कुरुंदकर
मराठी कथेची स्थितीगती – अंजली सोमण
अण्णा भाऊंचे कादंबरीविश्व – प्रमोद गारोडे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - पहिले

अभ्यासपत्रिका ४.२ (ऐच्छिक)

भाषांतरविद्या

उद्दिष्टे

१. मराठीशिवाय अन्य भाषेतील साहित्याची ओळख करून देणे.
२. साहित्याविषयीचा तौलनिक दृष्टीकोण निर्माण करण्यास मदत करणे.
३. भाषेच्या वैशिष्ट्यांचा परिचय करून घेणे.
४. मुळ लेखकाचे भाषेतील स्थान, वैशिष्ट्यांचा अभ्यास करणे.

उपयोजन

१. अन्य भारतीय भाषेतील साहित्याचा तसेच जागतिक वाङमयाचा परिचय होईल.
२. कलाकृतीचे श्रेष्ठत्व कसे निर्धारित होते याविषयी आकलन होण्यास मदत होईल.
३. अन्य भाषेतील साहित्य भाषेमुळे कसे भिन्न होत जाते हे कळून येईल.
४. इतर भाषेतील साहित्यिकांच्या कलाकृतीशी थेट परिचय होईल.
५. संस्कृती समन्वयात भाषांतराचे स्थान व महत्व लक्षात येईल.

अभ्यास घटक

१. भाषांतर : संकल्पना
२. भाषांतराचे प्रकार – अनुवाद, स्वैर, रुपांतर, आधारित, लिप्यंतर, अर्वाचीनीकरण

३. ललित आणि ललितेतर साहित्याचे भाषांतर.

४. भाषांतरकार : जबाबदारी, पूर्वतयारी, आवश्यक गुण, शैली इ.

५. भाषांतरीत मराठी साहित्य.

६. अभ्यासासाठी नेमलेल्या भाषांतरीत साहित्यकृती

अ. अन्य राष्ट्रातील साहित्याचे मराठी अनुवाद

१. मोरनामा आणि इतर कथा – इंतजार हुसेन – अनुवाद: भास्कर लक्ष्मण भोळे, साहित्य अकादमी, नवी दिल्ली.

२. होय, तेव्हाही गाणं असेल! – बर्टोल्ट ब्रेख्त – अनुवाद: विद्या सुर्वे बोरसे, अथर्व पब्लीकेशन्स, जळगाव

आ. अन्य भारतीय भाषेतील साहित्याचे मराठी अनुवाद

१. पिवळ्याधम्मक छत्रीतली मुलगी – उदय प्रकाश – अनुवाद: गणेश विसपुते, लोकवाङ्‌य गृह, मुंबई

२. भिंतीत एक खिडकी असायची – विनोदकुमार शुक्ल – अनुवाद: निशिकांत ठकार, साहित्य अकादमी, नवी दिल्ली

संदर्भ ग्रंथ

भाषांतर – सदा क-हाडे

भाषांतर मीमांसा – (संपा.) कल्याण काळे, अंजली सोमण

साहित्यसेतू – एल. एस. देशपांडे

अनुवाद, वर्णव्यवस्था आणि मी – सूर्यनारायण रणसुभे

देशीवाण – चंद्रकांत बांदिवडेकर

अक्षरांचा श्रम केला – विलास सारंग

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - दुसरे

अभ्यासपत्रिका ५ (अनिवार्य)

स्वातंत्र्योत्तर काळातील मराठी वाङ्मयाचा इतिहास

(इ. स. १९४७ ते इ. स. २०१०)

उद्दिष्टे.

१. मराठी साहित्याचा अभ्यास करण्यासाठी अभिरुची निर्माण करणे.
२. आधुनिक मराठी वाङ्मयाच्या इतिहासातील परंपरा समजून घेणे.
३. स्वातंत्र्योत्तर मराठी वाङ्मयाची वाटचाल अभ्यास करणे.
४. विविध वाङ्मय प्रवाहांचा उदय आणि विकास कसा झाला याचा मागोवा घेणे.
५. स्वातंत्र्योत्तर वाङ्मयीन चळवळींचे प्रभाव साहित्यामध्ये कसे पडले आहेत, याचा शोध घेणे.
६. स्वातंत्र्योतर मराठी साहित्यावरील प्रभावांची उकल करणे, परभाषीय साहित्याच्या संपर्कातून मराठी साहित्यात कोणती स्थित्यंतरे घडली, याबद्दल साहित्यिक आणि साहित्यकृती यांचे अवलोकन करणे.
७. मराठी भाषा आणि साहित्य यांच्या कालसुसंगत कसे अनुबंध आहेत, यांचे विवेचन करणे.

उपयोगिता

१. मराठी पदव्युत्तर अभ्यासक्रम पूर्ण करताना प्रगल्भ व्यक्तिमत्त्व निर्माण होण्यासाठी मदत..
२. स्पर्धा परीक्षांच्या तयारीसाठी मराठी वाङ्मयाचा अभ्यास उपयुक्त आहे.
३. स्वातंत्र्यपूर्वकालीन सांस्कृतिक, वाङ्मयीन व ऐतिहासिक पाश्र्वभूमीचे आकलन.
४. आधुनिक काळातील मराठी वाङ्मयीन वारसा जतन करणे.
५. मराठी लेखनातील ठळक प्रवृत्ती, ग्रंथकार आणि साहित्यकृती या अनुषंगाने साहित्याचा अभ्यास करणे.

अभ्यास घटक

१. स्वातंत्र्योत्तर ते २०१० या कालखंडातील स्थित्यंतराच्या पार्श्वभूमीवर साहित्य निर्मितीच्या प्रेरणा समजून घेणे.
२. प्रस्तुत कालावधीतील सांस्कृतिक आणि वाङ्मयीन पार्श्वभूमी, मराठी साहित्यातील प्रेरणा, प्रवृत्ती, प्रवाह आणि वाङ्मयीन चळवळी, प्रसारमाध्यमे आणि वाङ्मय प्रकारांचा विकास, नववर्गाची निर्मिती आणि नवसाहित्य, साठोत्तरी, ऐंशी नंतरचे, आणि जागतिकीकरणानंतरचे साहित्य यांचा परिचय, शासकीय पातळीवरून साहित्य निर्मितीचे प्रयत्न इ. घटकांचा अभ्यास करणे अभिप्रेत आहे.
३. अभ्यास परिपूर्ण होण्यासाठी पुढील वाङ्मयप्रकारनिहाय अभ्यास.....

अ. नाटक,
आ. कविता,
इ. कथा,
ई. कादंबरी,
उ. ललितगद्य (चरित्र, आत्मचरित्र)

संदर्भ ग्रंथ

प्रदक्षिणा – कॉन्टीनेन्टल प्रकाशन, पुणे
मराठी साहित्याचा सांस्कृतिक संदर्भ – रा. ग. जाधव
साहित्य आणि विद्रोह – (संपा) पृथ्वीराज तौर
राजकीय चळवळ आणि मराठी नाट्यसृष्टी – शनवारे
संक्षिप्त मराठी वाङ्मयाकोश – वसंत आबाजी डहाके
मराठी साहित्य : इतिहास आणि संस्कृती – वसंत आबाजी डहाके
साहित्याचा अवकाश – नागनाथ कोत्तापल्ले
साहित्य आणि सांस्कृतिक संवेदन – प्रभाकर बागले
प्रादेशिक कादंबरी – भास्कर शेळके
मराठी कादंबरी : चर्चा आणि चिंतन – चंद्रकांत बांदिवडेकर
ग्रामीण साहित्य आणि ग्रामीण कादंबरीचे स्वरूप – विठ्ठल जंबाले

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - दुसरे

अभ्यासपत्रिका ६ (अनिवार्य)

वर्णनात्मक भाषाविज्ञान

उद्दिष्टे

१. भाषेच्या संरचनेचा अभ्यास करणे.
२. विसाव्या शतकातील भाषाविज्ञानाच्या संकल्पनांचा परिचय करवून घेणे.
३. भाषेच्या एककालिक अभ्यासाची तत्वे समजून घेणे.
४. मराठी भाषेच्या व्यवस्थेचे आकलन करुन घेणे.

उपयोगिता

१. भाषेच्या अंतःसूत्रांशी परिचय होईल.
२. मराठी भाषेचे सूक्ष्म आकलन होईल.
३. भाषाविज्ञानातील जागतिक संकल्पनांशी ओळख होईल.
४. भाषाअभ्यासाचा नवा दृष्टीकोन विकसित होईल.

अभ्यासघटक

१. स्वनविचार
२. मराठीची स्वनिमव्यवस्था
३. रुपिमविचार
४. वाक्यविचार
५. अर्थविचार

संदर्भ ग्रंथ

सुलभ भाषाविज्ञान – द. दि. पुंडे
वर्णनात्मक भाषाविज्ञान – लीला गोविलकर
भाषाविज्ञानः वर्णनात्मक आणि ऐतिहासिक – (संपा) स. गं. मालशे, हे. वि. इनामदार, अंजली सोमण
भाषाविज्ञान परिचय – स. गं. मालशे, द. दि. पुंडे, अंजली सोमण
अभिनव भाषाविज्ञान – गं. ना. जोगळेकर
भाषा आणि भाषाविज्ञान – रमेश धोंगडे

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - दुसरे

अभ्यासपत्रिका ७.१ (ऐच्छिक)

वाङ्मयप्रकारांचा अभ्यासः कविता आणि नाटक

उद्दिष्टे

१. वाङ्मयप्रकारांची संकल्पना अभ्यासणे.
२. साहित्यातील नाट्यात्म आणि काव्यात्म घटकांचा विशेष अभ्यास करणे.
३. मराठीतील निवडक साहित्यकृतींचा अभ्यास करणे.
४. मराठी नाटक आणि कविता यांच्या वाटचालीतील महत्वाच्या टप्प्यांचा अभ्यास करणे.

उपयोगिता

१. नाटक आणि कविता या वाङ्मयप्रकाराची वैशिष्ट्ये लक्षात येतील.
२. मराठीतील विशिष्ट वाङ्मयप्रकारांची वाटचाल, योगदान व वेगळेपण समजून येईल.
३. विशिष्ट कलाकृतीचे वाङ्मयेतिहासातील स्थान कसे निश्चित होते ते समजून येईल.
४. निवडक कलाकृतींचा सूक्ष्म पातळीवरील अभ्यास करता येईल.

अभ्यासघटक

१. साहित्यप्रकारः संकल्पना

२. कवितेची संकल्पना. महाकाव्य, खंडकाव्य, दीर्घ कविता, भावकविता (अभंग, ओवी, लावणी, पोवाडा) यांची सैद्धांतिक ओळख.

३. नाटक आणि रंगभूमीः अनुबंध

४. नाटकः संकल्पना. सुखात्मिका, शोकांतिका, महानाट्य, एकांकिका, पथनाट्य, रिंगणनाट्य यांची सैद्धांतिक ओळख.

पुढील साहित्यकृतींचा अभ्यास करावयाचा आहे.

अ. कविता

१. सनद – नारायण सूर्वे

२. धग असतेच आसपास – कल्पना दुधाळ

आ. नाटक

१. नटसम्राट – वि. वा. शिरवाडकर

२. सुसाट – अजित देशमुख

संदर्भ ग्रंथ

रूपबंध कला समीक्षा - एस. डी. इनामदार

साहित्य आणि अस्तित्वाभान – दिलीप पुरुषोत्तम चित्रे

साहित्य आणि सामाजिक संदर्भ – रा. ग. जाधव

मिथक आणि नाटक – तारा भवाळकर

साहित्याचे सामाजिक व सांस्कृतिक अनुबंध – म. सु. पाटील

काही वाङ्मयाप्रकार : शोध आणि स्वरूप – वसंत जोशी

साहित्यविमर्श – रमेश वरखेडे

मराठी साहित्य : प्रेरणा व स्वरूप – (संपा) गो. मा. पवार, म. द. हातकणंगलेकर

‘सुर्वे’ नारायण सुर्वे यांच्या समग्र कविता – दिगंबर पाध्ये

महाकाव्य : स्वरूप व समीक्षा – द. भि. कुलकर्णी

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - दुसरे

अभ्यासपत्रिका ७.२ (ऐच्छिक)

भाषाव्यवहार आणि उपयोजन

उद्दिष्टे

१. समाजव्यवहाराचे माध्यम म्हणून भाषेचा परिचय करुन घेणे.
२. भाषाव्यवहाराचे स्वरुप समजून घेणे.
३. भाषिक संवादाचे प्रत्यक्ष व्यवहारातील उपयोजन लक्षात घेणे.
४. भाषेचा सर्जनशील उपयोग लक्षात घेणे

उपयोगिता

१. भाषेच्या स्वरुपाचे आकलन होईल.
२. भाषिकक्षमतांची जाणिव होईल.
३. भाषाव्यवहाराचे स्वरुप लक्षात येईल.
४. सर्जनशील लेखनास सहाय्य होईल.
५. वाचनाचा व्यावहारिक उपयोग लक्षात येईल.

अभ्यासघटक

१. भाषेचे स्वरुप.
२. मराठी भाषाव्यवहाराचे स्वरुप.
३. भाषेची संवादात्मकता आणि उपयोजन.
४. भाषेची सर्जनशीलता आणि उपयोजन.
५. वाचनः विशेष आणि उपयोजन.
६. मराठीचे लेखनविषयक नियम.

संदर्भ ग्रंथ

व्यावहारिक मराठी – ल. रा. नसिराबादकर

मराठी भाषाव्यवहार आणि उपयोजन – डॉ. सुनिता सांगोले

मराठी भाषिक कौशल्ये विकास – (संपा) डॉ. पृथ्वीराज तौर

मराठी लोकनागरी – पुष्पा फडके

मराठी शब्दलेखनकोश – प्रा. यास्मिन शेख

भाषाचिंतन – केशव सखाराम देशमुख

वक्तृत्व आणि संभाषण कौशल्य – डॉ. श्रुती वडगबाळकर

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ,नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - दुसरे

अभ्यासपत्रिका ८.१ (ऐच्छिक)

सामाजिक दृष्टिकोनातून साहित्याचा अभ्यास

उद्दिष्टे

१. साहित्य आणि समाज यांचा अनुबंध स्पष्ट करणे.
२. समाजातील घडामोडींचा साहित्यावर पडणारा प्रभाव अभ्यासणे.
३. लेखकाच्या वाङ्मयीन व्यक्तिमत्वाची जडण घडण समजून घेणे.
४. साहित्यकृतीचे सामाजिक अंगाने विश्लेषण करणे.

उपयोजन

१. साहित्याकडे पाहण्याची सामाजिक दृष्टी विकसित होईल.
२. विविध वाङ्मयीन सैद्धांतिक वादांचा, तात्विक संकल्पनांचा अभ्यास होईल.
३. साहित्यकृतीची समीक्षा करण्याची नवी भूमिका विकसित होईल.
४. मराठी समाज आणि मराठी साहित्य यांचे अंत:संबंध आकलन होतील.

अभ्यासघटक

१. साहित्य आणि समाज : परस्पर संबंध
२. सामाजिक दृष्टिकोनातून साहित्याचा अभ्यास : हेतू, स्वरूप आणि व्याप्ती
३. सामाजिक चळवळींचा साहित्यावरील प्रभाव
४. गांधीवाद, मार्क्सवाद, आंबेडकरवाद, स्त्रीवाद आणि मराठी साहित्य
५. लेखकाचे व्यक्तिमत्व : जडणघडण आणि सामाजिक पर्यावरण
६. वाचकांची अभिरुची प्रकाशन व्यवहार, प्रसिद्धी माध्यमे आणि वाङ्मयरूपे

संदर्भ ग्रंथ

साहित्य आणि समाज - (संपा) नागनाथ कोत्तापल्ले व इतर

साहित्य आणि सामाजिक संदर्भ – रा. ग. जाधव

साहित्य आणि समाज – सदा क-हाडे

संत वाङ्मयाची सामाजिक फलश्रुती – गं. बा. सरदार

साहित्य आणि सामाजिक संदर्भ – अंजली सोमण

साहित्य, समाज आणि संस्कृती – दिगंबर पाध्ये

साहित्याचा अवकाश – नागनाथ कोत्तापल्ले

जीवन आणि साहित्य – शरच्चंद्र मुक्तीबोध

पर्यावरणीय प्रबोधन आणि साहित्य – रा. ग. जाधव

साहित्यकारण - पृथ्वीराज तौर

मराठी साहित्याचे समकालीन संदर्भ – विनायक येवले

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

एम.ए. प्रथम वर्ष अभ्यासक्रम

जून २०१९ पासून

सत्र - दुसरे

अभ्यासपत्रिका ८.२ (ऐच्छिक)

मराठी बाल-कुमार साहित्य

उद्दिष्टे

१. बालसाहित्य या संकल्पनेची ओळख करून घेणे
२. प्रौढ साहित्य आणि बालसाहित्य यातील भेद समजून घेणे
३. मराठी आणि जागतिक भाषेतील प्रमुख बालसाहित्यकृतींचा स्थूल परिचय करून घेणे
४. बालकांचे मानसशास्त्र समजून घेणे
५. बालसाहित्य आणि इतर कलाप्रकारांचा अनुबंध लक्षात घेणे

उपयोजन

१. बालसाहित्य आणि कुमार साहित्य या संकल्पनेची ओळख होईल.
२. बालसाहित्याचे निराळेपण आणि शक्तिस्थाने यांचे आकलन होईल.
३. बालसाहित्याचे महत्व लक्षात येईल.
४. मुलांच्या भाषेची वैशिष्ट्ये आणि प्रत्यक्ष बालसाहित्य यांची सांगड घालता येईल.
५. बालहक्क, बालकांचे अधिकार, बालकासंबंधीचे कायदे, बालमानसशास्त्र याविषयी नवे भान येईल.

अभ्यास घटक

१. बालसाहित्य : संकल्पना, स्वरूप आणि प्रयोजनविचार
२. बालसाहित्य आणि प्रौढसाहीत्य यातील भेद आणि सामर्थ्यस्थळे
३. बालसाहित्याचे वयोगटाप्रमाणे वर्गीकरण – शिशु, बाल, कुमार.
४. मराठी बालसाहित्याचे स्वरूप व वाटचाल
५. मुलांची नियतकालिके आणि बालकुमार साहित्य संमेलने
६. पुढील साहित्यकृतींचा अभ्यास अपेक्षित आहे.

अ. कवितासंग्रह – रानफुले – सुरेश सावंत – संगत प्रकाशन, नांदेड
आ. कथासंग्रह – आगळ्या वेगळ्या गोष्टी – सूर्यकांत सराफ – शब्दामृत प्रकाशन, औरंगाबाद
इ. नाटक – चल रे भोपळ्या / हंडाभर मोहरा – भारत सासणे – मॅजेस्टिक प्रकाशन, मुंबई
ई. कादंबरी – खारीच्या वाटा – ल. म. कडू – राजहंस प्रकाशन , पुणे

संदर्भ ग्रंथ

बालवाङ्मय – देविदास बागुल
बालसाहित्याची रूपरेखा – मालती दांडेकर
मराठी बालसाहित्य: प्रवाह आणि प्रतिक्रिया – लीलावती भागवत
मराठी बालसाहित्य: सृजन, दायित्व आणि प्रसार – विश्वास वसेकर
बालसाहित्य : आकलन आणि समीक्षा – विद्या सुर्वे बोरसे
बालकुमार साहित्य : आशय आणि लयतत्व – महावीर जोंधळे
बालशिक्षण, बालसाहित्य: विविध आयाम – (संपा) मंदा खांडगे, लीला दीक्षित
उद्गार – गो. वि. करंदीकर
बालसाहित्याचे अंतरंग – रजनी हिरळीकर

प्रश्नपत्रिकेचे स्वरूप : सर्व अभ्यासपत्रिकांसाठी

अभ्यासापत्रिका एकूण 100 गुणांसाठी आहेत.

सत्रांत परीक्षा – 75 गुणांसाठी + 25 गुण अंतर्गत मूल्यमापनासाठी असतील.

सत्रांत परीक्षेचे खालील स्वरूप असेल
प्र. 1 ला पर्यायी दीर्घोत्तरी प्रश्न 20 गुण
प्र. 2 रा पर्यायी दीर्घोत्तरी प्रश्न 20 गुण
प्र. 3 रा पर्यायी दीर्घोत्तरी प्रश्न 20 गुण
प्र. 4 था टीपा द्या (पाचपैकी तीन) 15 गुण
एकूण 75 गुण

अंतर्गत मूल्यमापन : 25 गुण
दोन घटक चाचणी 10 गुण (5+5)
सेमिनार 05 गुण
गृहकार्य 10 गुण
एकूण गुण 25

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
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मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१८–१९ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक १४ जून २०१८ रोजी संपन्न झालेल्या ४१व्या मा. विद्या परिषद बैठकीतील विषय क्र.११/४१–२०१८** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१८–१९ पासून लागू करण्यात येत आहेत.

१) इंग्रजी
२) हिंदी
३) कन्नड
४) मराठी
५) पाली
६) संस्कृत
७) उर्दू
८) अर्थशास्त्र
९) भूगोल
१०) इतिहास
११) सैनिकशास्त्र
१२) तत्त्वज्ञान
१३) राज्यशास्त्र
१४) लोकप्रशासन
१५) समाजशास्त्र

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१८–१९/**२५२**
दिनांक : २५.०६.२०१८.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, यू.जी.सी. कक्ष, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

FACULTY OF HUMANITIES

POLITICAL SCIENCE

SYLLABUS

B.A. THIRD YEAR

SEMESTER V & VI

SEMESTER PATTERN

Choice Based Credit System (CBCS)

(With effect from June - 2018)

UGC Approach for CBCS

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

The UGC formulated various regulations and guidelines from time to time to improve the higher education system and maintain minimum standards and quality across the Higher Educational Institutions (HEIs) in India. The academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. However, due to lot of diversity in the system of higher education, there are multiple approaches followed by universities towards examination, evaluation and grading system. While the HEIs must have the flexibility and freedom in designing the examination and evaluation methods that best fits the curriculum, syllabi and teaching-learning methods, there is need to devise a sensible system for awarding the grades based on the performance of students. Presently the performance of the students is reported using the conventional system of marks secured in the examination or grades or both. The conversion from marks to letter grades used vary widely across the HEIs in the country. This creates difficulty for the academia and the employers to understand and infer the performance of the students graduating from different universities and colleges based on grades.

The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions in Indian and abroad. So it is desirable to introduce uniform grading system. This will facilitate student's mobility across institutions within and across countries and also enable potential employers to assess the performance of students. To bring in the desired uniformity, in grading system and method for computing the cumulative grade point average (CGPA) based on the performing of students in the examinations, the UGC has formulated these guidelines.

CHOICE BASED CREDIT SYSTEM (CBCS):

The Choice Based Credit System (CBCS) provides a 'cafeteria' approach in which the student can take courses of this choice, learnt at their own pace, undergo additional courses and acquire more than the required credits. CBCS will facilitate student mobility across institutions within the country and across other country; also it will help the potential employer to assess the performance of the students in a better way. Many of the students are eager to pursue their undergraduate courses under the choice based credit system (CBCS). CBCS represents a shift in focus from teaching based to learning education since the workload is based on investment of time in learning CBCS offers more flexibility to students by allowing them to choose interdisciplinary courses along with major courses which would make education more broad based

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions within India to begin with and across countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

Outline of Choice Based Credit System:

1) **Core Course:**A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

2) **Elective Course:**Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

2.1 **Discipline Specific Elective (DSEC) Course:**Elective courses may be offered by the main discipline/subject of study is referred to as Discipline Specific Elective. The University/Institute may also offer discipline Elective

courses of interdisciplinary nature (to be offered by main discipline/subject of study)

2.2 **Dissertation / Project:**An elective course designed to acquire Special/advanced knowledge, such as supplement study/support to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.

2.3 **Generic Elective (GEC) Course:** An elective course chosen Generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.

3) **Ability Enhancement Courses (AEC) / Competency Improvement Courses / Skill Development Courses/Foundation Course:** The Ability Enhancement Courses (AE) Courses may be of two kinds: AE Compulsory Course (AECC) and AE Elective Course (AEEC). "AECC" courses are the courses based upon the content that leads to Knowledge enhancement. The (i) Environmental Science (ii) English/MIL Communication) are mandatory for all disciplines. AEEC courses are value-based and/or skill-based and are aimed to providing hands-on-training, competencies, skills etc.

3.1 AE Compulsory Course (AECC): Environmental Science, English Communication/MIL Communication

3.2 AE Elective Course (AEEC): These courses may be chosen from a pool of courses designed to provide value-based and / or skill-based instruction

Project work / Dissertation are considered as a special involving application of knowledge in solving / analyzing / exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS) Course Structure

Faculty of Humanities
B
.A. Third Year Syllabus

Semester pattern with effect from June-2018

SUBJECT: POLITICAL SCIENCE

Semester	Core Course	Paper No.	Name of Paper	Lectures Per Week	Total No. of Lectures	CA	ESE	Total Marks	Credit
SEM-V	DSE-POL SCI	I	Indian Political Thought OR India's Foreign Policy	4	55	35	40	75	3
	GE-POL SCI	I	Western Political Thinker	4	55	35	40	75	3
	SEC	III	Indian Parliamentary Procedure	3	45	25	25	50	2
	Total			11	155	95	105	200	8
SEM-VI	DSE- POL SCI	II	Political Ideology Or Political Sociology	4	55	35	40	75	3
	GE-POL SCI	II	Modern Political Analysis	4	55	35	40	75	3
	SEC	IV	Indian Democracy & Good Governance	3	45	25	25	50	2
	Total			11	155	95	105	200	8
	GRAND TOTAL			22	310	190	210	400	16

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Humanities
B.A. Third Year Political Science
CBCS Paper Pattern
Semester pattern with effect from June-2018

Semester-V

Course Name	Title of the paper	Continuous Assessment (CA)	End of Semester Exam (ESE)	Total Marks	Credit
DSE- POL SCI – I	Indian Political Thought Or India's Foreign Policy	35	40	75	03
GE- POL SCI – I	Western Political Thinker	35	40	75	03
SEC- III	Indian Parliamentary Procedure	25	25	50	02
	Total	95	105	200	08

Semester-VI

Paper No.	Title of the paper	Continuous Assessment (CA)	End of Semester Exam (ESE)	Marks	Credit
DSE- POL SCI - II	Political Ideology Or Political Sociology	35	40	75	3
GE-POL SCI -II	Modern Political Analysis	35	40	75	3
SEC-IV	Indian Democracy & Good Governance	25	25	50	02
	Total	95	105	200	08

Exam Pattern

DSE (Discipline Specific Elective Course)+ GE (Generic Elective Course)

C.A.	-	35 Marks (Two class test each for 10 marks and one home Assignment or dissertation/project for 15 marks)
ESE	-	40 Marks (University theory exam for 40 Marks for descriptive questions)

SEC (Skill Enhancement Course)

C.A.	-	25 Marks 15 marks for seminar and two test for 10 marks Each test of 5 marks
ESE	(End of Semester Exam)	
	-	Total 25 Marks (To submit one) 10 marks for skill work report submission 10 marks for overall skill judgment 05 marks for skill work presentation

(ESE) End of Semester Exam will be conduct under the external examiner into the university panel.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

DSE & GE
End of Semester Exam (ESE)

FACULTY OF HUMANITIES

B.A.THIRD YEAR POLITICAL SCIENCE

Question Paper Pattern

With effect from June 2018

Time: 02 Hrs. **Marks: 40**

<u>Descriptive Pattern</u>

Q.	1)	Descriptive questions.	10 Marks
		Or	
		Descriptive question.	
Q.	2)	Descriptive questions.	10 Marks
		Or	
		Descriptive question.	
Q.	3)	Descriptive questions.	10 Marks
		Or	
		Descriptive question.	
Q.	4)	Write short notes (Any two)	10 marks.
	i)		
	ii)		
	iii)		
	iv)		

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
POLITICAL SCIENCE
Effective from June - 2018
Class: B.A. THIRD YEAR
(CBCS Pattern)
Semester -V
Paper Title: INDIAN POLITICAL THOUGHT
Paper-I
(Discipline Specific Elective Course)
DSE - POL. SCI.

Credit: 03	**Periods: 55**	**Marks: 75**

Course Rationale

This is an introductory paper to the concept, ideas and theories developed in India. It deals with the main sources of the political traditions in modern India and focuses the development of social Institution and as well as various patterns of politics that emerged in modern India.

Utility of Course

This course will encourage students to understand and decipher the diverse and often contesting ways in which the ideas of nationalism, democracy and social transformation were discussed in Pre and Post-independence India.

Learning Objective

The main objective to study this paper is to understand key thinker's seminal contribution to the evolution of political theorizing in India.

Course Content

		Periods	Marks
1)	**B.G. Tilak (1856-1920)**	**-15-**	**-20-**
	1.1 Views on Social Reforms		
	1.3 Chatusutri		
	1.4 Nationalism-Critical Appreciation of Tilak's Views on Nationalism		

2)	**M.K. Gandhi (1869-1948)**	**-15-**	**-20-**

2.1 Views on truth and non violence
2.2 Satyagrah
2.3 Thoughts on State
2.4 Critique of Western Civilization

3)	**Dr. B.R. Ambedkar (1891-1956)**	**-15-**	**-20-**

3.1 Nation and Nationalism
3.2 Thoughtson Social Democracy
3.3 State Socialism
3.4 Critique of Caste System

4)	**M.N. Roy (1887-1954)**	**-10-**	**-15-**

4.1 Thoughts on Marxism
4.2 Roy and Gandhism
4.3 Radical Humanism
4.4 Roy and Nationalism

Readings (English, Hindi & Marathi):

1. A Appadorai, Documents on Political Thoughts in Modern India, 2 Vol., Bombay Oxford University Press, 1970
2. J.V. Bondurant, Conquest of Violence: The Gandhian Philosophy of Conflict, Berkely, University of California Press, 1965.
3. R.J. Cashman, the Myth of the lokmanya Tilak and Mass Politics in Maharashtra, Berkeley, University of California Press, 1975.
4. R. Lyer, the Moral & Political Thoughts of Mahatma Gandhi, Delhi Oxford University Press, 1973.
5. M.J. Kanetkar, Tilak & Gandhi: A Comparative Study, Nagpur, Author, 1935. B.R. Nanda,
6. Gokhale, Gandhi and Nehrus: Studies in Indian Nationalism, London, Allen and Unwin, 1974.
7. G Omvelt, Dalits and the Democratic Revoluation: Dr. Ambedkar & Dalit Movement in Colonial India, New, Delhi, Sage, 1994.
8. T. Pantham& K. Deustch, Political Thought in Modern India, New Delhi, Sage, 1986.
9. B. Parekh, Colonialism, Tradition and Reform: Analysis of Gandhi's Political Discourse, New Delhi, Sage, 1989.
10. S.A. Wolpert, Tilak & Gokhale, Berkeley, University of California Press, 1962.
11. G. Woodcock, Mohandas Gandhi, London, Fontana, 1971.
12. Parekh Bhiku & Thomas Pantham, Political Discourse: Explorations in Indian & Western Political Thoughts.
13. Sudha J.P. & Satish Kuma, History of Political Thoughts, New Delhi Nath & Company, 1982.

14. Sharma G.N. & Moin Shakir, Politics &Society: Ram Mohan Roy to Nehru, Parimal Prakashan, Aurangabad.
15. N. Jayapalan, Indian Political Thinkers, Atlantic Publication, New Delhi.
16. Sudha J.P., Indian Political Thought.
17. Prakash Chandra, Political Philosopy of M.N. Roy, Sarup & Sons, New Delhi, 1992.
18. Shri. Ram Bakshi, M. N. Roy, Amol Publication, New Delhi, 1994.
19. N.R. Basannavar, The Indian in the Comintern, Dissertation, Unviersity, Bristol, 2007.
20. Satyabrata Rai Chaudhri, Leftism in India, 1917-1947 UK Palgrave, Basingtoke, 2007.
21. Usha Krishna, M.N. Roy and Radical Humanist Movement in India, a Social Study, Choudhary Charansingh University, Meerut-2005.
22. Syamales Das, M.M. Roy Biplabi, Rajnitik O Darshonik Calcutta: Sribhumi Publishing Co., 1999.
23. फाडीया बी.एल., आधुनिक राजनितीक चिन्तन का इतिहास, साहित्यभवन पब्लिकेशन, आगरा, दिल्ली.
24. शर्मा उर्मिता, शर्मा एस.के., भारतीय राजनैतिक चिंतन, अटलान्टीक प्रकाशन, दिल्ली.
25. भोळे भा.ल., आधुनिक भारतीय राजकीय विचारवंत, पिंपळापुरे प्रकाशन, नागपूर, १९९१
26. आघाव विलास, ढाले सुखनंदन व शेवाळे रमेश, भारतीय राजकीय विचारवंत, चिन्मय प्रकाशन, औरंगाबाद, २०१४
27. कुलकर्णी व्ही.जी., कांत सोमवशी, भारतीय राजकीय विचारवंत, कैलाश पब्लिकेशन्स, औरंगाबाद, २००८
28. बोराळकर कृ.दि., आधुनिक भारतीय राजकीय विचारवंत, पिंपळापुरे पब्लिशर्स, औरंगाबाद, १९८८
29. भोगले शांताराम, आधुनिक भारतीय राजकीय विचारवंत, श्री. विद्या प्रकाशन, नागपूर, १९९१
30. देवरे पी.डी. व इतर, आधुनिक भारतीय राजकीय विचारवंत, प्रशांत पब्लिकेशन, पुणे, २००४
31. शृंगारपुरे अरविंद, निवडक भारतीय राजकीय विचारवंत, श्री. विद्या प्रकाशन नागपूर, २००३.
32. पाटील बी.बी., भारतीय राजकीय विचारवंत, फडके प्रकाशन, कोल्हापूर, १९९७.
33. साबळे आर.डी., आधुनिक भारतीय राजकीय विचारवंत, अभय प्रकाशन, नागपूर, १९९९
34. शिंदे ज.रा., आधुनिक भारतीय राजकीय विचारवंत, कैलाश पब्लिकेशन्स, औरंगाबाद, १९८८
35. आघाव नवनाथ, तांदळे दिनकर, बिराजदार एस.ई., भारतीय राजकीय विचारवंत, कैलाश पब्लिकेशन्स, औरंगाबाद, २००६
36. देवगावकर श.गो., राजकीय विचारवंत, श्री. साईनाथ प्रकाशन, नागपूर, २००७

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
POLITICAL SCIENCE
Effective from June - 2018
Class: B.A. THIRD YEAR
(CBCS Pattern)
Semester –V
OR
Paper Title: INDIAS FOREIGN POLICY
Paper-I
(Discipline Specific Elective Course)
DSE - POL. SCI.

Credit: 03	**Periods: 55**	**Marks: 75**

Course Rational

This paper deals with foundations, phases and India's Relations with major countries as well as neighbours around her. It seeks to search and ascertain the he major issues and debates in the field of Indian foreign policy and probe India's complex relationship, both bilateral and multilateral with other countries.

Utility of Course

This Course will encourage the student to undertake an n depth analysis of India's foreign policy.

Learning Objective

The main objective of this paper is to familiar students with change and continuity, major issues and debates in India's foreign policy.

Course content		Periods	Marks
1)	**Foreign Policy**	**-15-**	**-15-**
	1.1 Meaning, Definition and Nature		
	1.3 Objectives and Principles		
	1.4 Determinants of India's foreign Policy		
2)	**Phases of India's Foreign Policy**	**-15-**	**-20-**
	2.1 Pre-independence era		
	2.2 Post-independence		
	2.3 And after 1990		
3)	**India's Relations with Major Countries**	**-15-**	**-20-**
	3.1 India and U. S. A.		
	3.2 India and Russia		
	3.3 India and China		

4) India's Relations with Neighbour Countries -10- -20-

4.1 India-Pakistan Relations

4.2 India-Sri Lanka Relations

4.3 India-Bangladesh Relations

Readings (English, Hindi & Marathi):

1) Appadorai, A and M.S. Rajan, "India's Foreign Policy and Relation", South Asia Pub., New Delhi, 1988
2) Arora, Prem, "India's Foreign Policy" Cosmos, Bookhive, 2000.
3) Bambhri, C.P., "Foreign Policy of India", Sterling, New Delhi, 1987.
4) Bhola, P.L., "Foreign Policies of India, Pakistan and China", RBSA Publishers, S.M.S. Highway, Jaipur, 2003.
5) Chaturvedi S.K., S.K. Sharma, Mahendra Kumar (ed), "Encyclopaedia of SAARB", Vol. 2, SAARC: Member Nations, Pragun Publication, 2006.
6) Dixit, J.N., "India's Foreign Policy and its Neighbours", Gyan Publication House, 2001.
7) Kapur, Ashok and A Jeyaratnam Wilson, "The Foreign Policy of India and Her Neighbours", London, Macmillan Press Ltd. 1996.
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9) Khanna, V.N., "Foreign Policy of India", Indira Gandhi Era", Inter India Publication, New Delhi, 1985.
10) Yerankar Shriram - Indo-Pak Relation, Adhayan Publishers, New Delhi-2014
11) कुमार अशोक, राजनीती विज्ञान, प्रकाशन, आग्रा, २००४.
12) बाचल वि.मा., भारताचे परराष्ट्र धोरण, कॉन्टिनेन्टल प्रकाशन, पुणे, १९७८.
13) नाईकवाडे अशोक, भारताचे परराष्ट्र धोरण, स्टडी सर्कल, मुंबई, १९९५.
14) दिवाण चंद्रशेखर, भारताची विदेशनीती, विद्या प्रकाशन, नागपूर, १९९२.
15) दुभाषी पद्माकर, भारताचे परराष्ट्र धोरण, श्रीविद्या प्रकाशन, पुणे, २००३.
16) देवळाणकर शैलेंद्र, समकालीन जागतिक राजकारणातील प्रमुख प्रश्न, विद्या प्रकाशन, औरंगाबाद, २००५.
17) आघाव विलास, कदम माधव, भारताचे परराष्ट्र धोरण, क्रिएटिव्ह पब्लिकेशन, नांदेड, २०१८.
18) साबळे आर.डी., भारताचे परराष्ट्र धोरण, कल्पना प्रकाशन, नांदेड, १९९८.
19) लोटे रा.ज., भारताची विदेशनीती, पिंपळापुरे ॲण्ड कं. पब्लीशर्स, नागपूर, १९९५.
20) मेहत्रे डी.एच., भारताचे परराष्ट्रीय धोरण, क्रिएटिव्ह पब्लिकेशन, नांदेड, ऑगस्ट, २०१२.
21) आवारी विलास, भारताचे परराष्ट्रीय धोरण, सक्सेस पब्लिकेशन्स, पुणे, २०१५

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
POLITICAL SCIENCE
Effective from June 2018
Class: B.A. THIRD YEAR
(CBCS Pattern)
Semester -V
Paper Title: WESTERN POLITICAL THINKER
Paper-I
(Generic Elective Course)
GE - POL. SCI.

Credit: 03	**Periods: 55**	**Marks: 75**

Course Rationale

This paper focus on the Classical ideas generated in the western world representation the ancient to the modern. The four thinkers have been selected who represent ideal, realistic and liberal tradition. The text are interpreted both in the historical and Philosophical perspective.

Utility of Course

The course will narrate students the legacy of the thinkers and orient them about continuity and change within the western political tradition. It helps them to study historical aspects western state and society.

Learning objective

The main purpose of this paper is to acknowledge students with how the great masters explained and analyzed political events and problems of their time and prescribed solutions.

Course Content

		Periods	**Marks**
1)	**Plato**	**-15-**	**-20-**
	1.1 Ideal State		
	1.2 Philosopher King		
	1.3 Views on Education		
	1.4 Concept of Justice		
	1.5 Theory of Communism		
	1.6 Second Ideal State		

2)	**Aristotle**	**-15-**	**-20-**
	2.1 Concept of Ideal State		
	2.2 Views on Family and Property		
	2.3 Thoughts on Slavery		
	2.4 Views on Civilization		
	2.5 Thoughts on Revolution		
3)	**Machiavelli**	**-15-**	**-20-**
	3.1 Thoughts on Human Nature		
	3.2 Views on Religion and Morality		
	3.3 State-Craft		
4)	**J.S. Mill**	**-10-**	**-15-**
	4.1 His contribution to utilitarianism		
	4.2 Views on liberty		
	4.3 Thoughts on Representative Government		

Readings (English, Hindi & Marathi):

1. J. W. Allen, A History of Political Thought in the Sixteenth Century, London, Methuen.
2. A. Avineri, The Social & Political Thought of K. Marx, New Delhi, S. Chand andCo.1979.
3. Sir. E. Barker, The Political Thought of Plato and Aristotle, New York, Dover Publications, 1969.
4. R. N. Berki, The History of Political Thought: A Short Introduction, London, Dent, 1977.
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19. बाचल वि.म., गोळवलकर एस.एम., पाश्चिमात्य राजकीय विचारवंत, कॉन्टिनेन्टल प्रकाशन, पुणे, १९७८
20. आघाव विलास, ढाले सुखनंदन व शेवाळे रमेश, पाश्चिमात्य राजकीय विचारवंत, चिन्मय प्रकाशन, औरंगाबाद, २०१४
21. पाटील बी.बी., पाश्चिमात्य राजकीय विचारवंत, फडके प्रकाशन, कोल्हापूर, १९९७
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23. बोराळकर कृ.दि., पाश्चिमात्य राजकीय विचारवंत, पिंपळापुरे ॲण्ड कं. पब्लिशर्स, नागपूर, १९९२
24. शिंदे ज.रा., पाश्चिमात्य राजकीय विचारवंत, कैलाश पब्लिकेशन्स, औरंगाबाद, १९९८
25. कुलकर्णी सुधाकर, पाश्चिमात्य राजकीय विचारवंत, अरुणा प्रकाशन, लातूर, १९९८
26. गव्हाणे महादेव, पाश्चिमात्य राजकीय विचारवंत, निकीता प्रकाशन, लातूर, २०१३
27. अमृतकर प्रशांत, पाश्चिमात्य राजकीय विचारवंत, चिन्मय प्रकाशन, औरंगाबाद, २००५
28. जोरगुलवार भूषण, राजकीय विचारवंत, डॉ. अर्चना शहापूरकर प्रकाशन, अहमदपूर, १९९९
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30. डोळे ना.य., प्रमुख पाश्चिमात्य राजकीय विचारवंत, विद्या बुक्स पब्लिशर्स, औरंगाबाद, १९९९
31. जोशी वि.सी., पाश्चात्य राजकीय तत्वज्ञान, कैलाश पब्लिकेशन्स, औरंगाबाद, १९९९
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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
POLITICAL SCIENCE
Effective from June 2018
B. A. THIRD YEAR
(CBCS Pattern)
Semester - V
SEC – III - INDIAN PARLIAMENTARY PROCEDURE

Credit: 02 **Periods: 45** **Marks: 50**

Course Rationale

This Skill Enhancement oriented course attempts to fill the void and presents some basic facts, and authentic information about our parliament. It seeks to briefly narrate the structure and functioning of the Indian Parliament while it exists in the session.

Utility of the Course

This paper will helpful and encourage students to know the actual working of the houses the sittings, the role of the presiding officers, the Question Hour.

Learning Objective

The main purpose of this course is to encourage learner for absorbing the skill to solve issues, problems in their day to day life as parliament do for the sake of save and strength then democracy.

Course Content		**Periods**	**Marks**
1.	**Structure of Indian Parliament-**	**10**	**10**
1.1	The President		
1.2	Rajya Sabha		
1.3	Lok Sabha		
2.	**Functions of Parliament-**	**15**	**20**
2.1	Political and Financial Control		
2.2	Surveillance of Administration		
2.3	Informational (Right to Information)		
2.4	Representational, Grievance Ventilation, Educational and Advisory		
2.5	Conflict – Resolution and National International		
2.6	Law Making, Developmental, Social Engineering and Legitimatisational		
2.7	Constituent (Amending the Constitution)		
2.8	Leadership (Recruitment and Training)		

3.	**Parliament in Session -**	**10**	**10**
3.1	Summoning of the Houses		
3.2	President's Address		
3.3	Election of Speaker / Deputy Speaker		
3.4	Conduct of Bossiness and Procedure		
4.	**The Question Hour-**	**10**	**10**
4.1	Categories of Questions		
4.2	How Questions are admitted, asked		
4.3	Short Notice Questions, Questions to Private Members		
4.4	Half –an- Hour Discussions, Zero Hour		

Readings (English, Hindi & Marathi):

1) Austin, Granville, The Indian Constitution, Corner Stone of a Nation Oxford Clarendon, 1996.

2) Basu, D.D., Introduction to the Constitution of India, 2002.

3) Johari, J.C., Indian Political System, Anmol Publication Pvt. Ltd., Delhi, 1996.

4) Pylee M. V., Constitutional Government in India, S. Chand and Co. Ltd., 1984.

5) Yerande V. L., Indian Government & Politics, Chandralok Prakashan, Kanpur, 2012.

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7) महिला अशोक और पिकॉक, भारतीय राज्यव्यवस्था, अरिहंत पब्लिकेशन हाऊस, जयपुर, १९८८

8) सईद एस.एम., भारतीय राजनीतिक व्यवस्था, सुलभ प्रकाशन, जयपुर, २००३

9) जैन पुखराज और फडिया बी.एल., भारतीय शासन एवं राजनीति, साहित्य भवन पब्लिकेशन्स, आगरा, १५ वा संस्करण, २००८

10) भोळे भा.ल., भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापुरे ॲन्ड कं. पब्लिशर्स, नागपूर. २००३

11) येरणकर श्रीराम, भारतीय संविधान आणि स्थानिक स्वराज्य शासन, श्री. साईनाथ प्रकाशन, नागपूर, २०१७

12) पाटील बी.बी. व उर्मिला चव्हाण, भारतीय शासन आणि राजकारण, फडके प्रकाशन, कोल्हापूर, २००२

13) शिंदे सुनिल व ढवळे जयराम, भारताचे शासन आणि राजकारण, एज्युकेशनल पब्लिकेशन्स ॲन्ड डिस्ट्रीब्यूटर्स, औरंगाबाद, २०१४

14) भोळे भा.ल., भारतीय राज्यव्यवस्था, पिंपळापुरे ॲन्ड कं. पब्लिशर्स, नागपूर, १९९०

15) जोशी सुधाकर, भारतीय शासन आणि राजकारण, विद्या बुक पब्लिशर्स, औरंगाबाद, २०१२
16) गव्हाणे अजय, संसदीय लोकशाहीची आयुधे, क्रिएटिव्ह पब्लिकेशन्स, नांदेड, २०१४
17) मेहेत्रे डी.एच. व सोलापुरे राजशेखर, भारतीय शासन आणि राजकारण, अरुणा प्रकाशन, लातूर, २००८
18) घांग्रेकर चिं.ग., भारतीय राज्यघटना : स्वरूप आणि राजकारण, श्रीमंगेश प्रकाशन, नागपूर, १९९७
19) जाधव तुकाराम व महेश शिरपूरकर, भारतीय राज्यघटना व घटनात्मक प्रक्रिया, युनिक अकॅडमी, पुणे, २०११
20) लोटे रा.ज., भारतीय राज्य व शासन व्यवस्था, पिंपळापुरे ॲण्ड कं. पब्लिशर्स, नागपूर, २००३
21) कुलकर्णी सुधाकर, भारतीय संविधान शासन आणि राजकारण, अभिजीत पब्लिकेशन, लातूर, २००३
22) चव्हाण शांताराम, गवई सुभाष, भारतीय राज्यव्यवस्था, वेदमुद्रा प्रकाशन, अमरावती, २०१०
23) इंगोले व्ही.एन., एरंडे व्ही.एल., भारतीय शासन आणि राजकारण, कल्पना प्रकाशन, नांदेड, १९९८
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25) कुलकर्णी विजय, भारतीय शासन व राजकारण, कैलाश पब्लिकेशन्स, औरंगाबाद, २०१०

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

POLITICAL SCIENCE

Effective from June 2018

Class: B.A. THIRD YEAR

(CBCS Pattern)

Semester -VI

Paper Title: POLITICAL IDEOLOGY

Paper-II

(Discipline Specific Elective Course)
DSE - POL. SCI.

Credit: 03 **Periods: 55** **Marks: 75**

Course Rationale

This course attempts to explain the concepts, nature and types of various ideologies. It seeks to clarity the key differences between ideological and other modes of thoughts.

Utility of Course

This paper will acknowledge students with various classical political ideologies and its contemporary relevance.

Learning Objective

The main concern of this paper is to introduce variant stands elaborates in various political ideologies about individual, state and society and its dialectics.

Course Content		**Periods**	**Marks**
1)	**Political Ideology**	**-15-**	**-20-**
	1.1 Meaning, Nature		
	1.2 Silent Features		
	1.3 Functions		
	1.4 Significance		
2)	**Liberalism**	**-15-**	**-20-**
	2.1 Meaning, definition and nature		
	2.2 Origin and Development		
	2.3 Kinds – Classical and Modern Liberalism		
	2.4 Critique of Liberalism		

3)	**Marxism**	**-15-**	**-20-**
	3.1 Meaning		
	3.2 Features		
	3.3 Theories of Marx's		
	3.4 Indian Marxist Movement		
4)	**Nationalism**	**-10-**	**-15-**
	4.1 Meaning, Definition		
	4.2 Origin and Development		
	4.3 Elements and Types		
	4.4 Significance and Limitations		

Readings (English, Hindi & Marathi):

1) B. Anderson, imagined communities, London, Verso, 1991.
2) S. Avineri and A. de Shalit (eds), Communication and Individualism, oxford University, Press, 1992
3) L.P. Baradat, Political Ideologies: Their Origins and Impact, Englewood Cliffs NJ, Prentice Hall, 1989.
4) W.T. de Bary Confucianism in action, Stanford CA. Stanford University Press, 1959.
5) D. Bell, The End of Ideology, New York, The free Press, 1960
6) R.M. Christenson, et al., Ideology and modern Politics, London, Thomas Nelson and sons, 1971.
7) R.H. Daniels, A Documentary History of communism and the West: From Revaluation to collapse, New York Holt, 1993.
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9) दात्ते, ढोबळे, प्रमुख राजकीय विचारप्रणाली, विद्या बुक्स पब्लिशर्स, औरंगाबाद, २००९
10) राठी शुभांगी, राजकीय विचारप्रणाली, कैलास पब्लिकेशन्स, औरंगाबाद, २०१३
11) पाटील संतोष, राजकीय विचारप्रणाली, शुभम प्रकाशन, लातूर, २००५
12) देवरे पी.डी., विसपुते एस.एम., निकुंभ डी.एस., राजकीय विचारप्रणाली, प्रशांत पब्लिकेशन्स, जळगांव, २००३
13) सावंत यु.डी., सूर्यवंशी पी.डी., राजकीय विचारप्रणाली, क्रिएटीव्ह पब्लिकेशन, नांदेड, २०१०
14) कुलकर्णी अ.ना., आधुनिक राजकीय विचारप्रणाली, विद्या प्रकाशन, नागपूर, १९९७
15) जाधव प्रभाकर, पाटील शाम, राजकीय विचारप्रणाली, राऊत पब्लिकेशनस, नांदेड, २००८

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

POLITICAL SCIENCE
Effective from June - 2018
Class: B.A. THIRD YEAR
(CBCS Pattern)
Semester –VI
OR
Paper Title: POLITICAL SOCIOLOGY
Paper II
(Discipline Specific Elective Course)
DSE - POL. SCI.

Credit: 03 **Periods: 55** **Marks: 75**

Course Rationale

This paper deals with concepts and dimensions in political sociology. It highlights various aspects of political culture, process of political socialization and political modernization, comparatively.

Utility of the Corse

This course will helpful learners to understand dynamics within political action, power and process in India and across the country.

Learning Objective

The main purpose of this course is to acquaint the students with interdisciplinary approach by connecting two separate disciplines.

Course Content

		Periods	Marks
1)	**Political Sociology**	**15**	**20**
	1.1 Meaning and Definition		
	1.2 Nature		
	1.3 Scope		
	1.4 Significance		
2)	**Political Culture**	**15**	**20**
	2.1 Meaning and Definition		
	2.2 Nature		
	2.3 Determinants		
	2.4 Classification		
	2.5 Significance		

3)	**Political Socialization**	**15**	**20**
	3.1 Meaning and Definition		
	3.2 Agencies		
	3.3 Features		
	3.4 Significance		
4)	**Political Modernization**	**10**	**15**
	4.1 Meaning and Definition, Nature		
	4.2 Features of the Political Modernization		
	4.3 Obstacles in Political Modernization		
	4.4 Political Modernization in India		

Readings (English, Hindi & Marathi):

1. Cantril, H., Human Nature and Political Systems, (Ind.Ed.) Popular Prakashan, Bombay, 1966.
2. Cawangh, D., Political Culture, Macmillan Press Ltd., London, 1972.
3. Coser, L.A. (Ed.), Political Sociology, Harper & Row Publishers, New York, 1967.
4. Dahl R.A. Modern Political Analysis, Prentice Hall of India, New Delhi, 1965.
5. Desai, A.R., Social Background of Indian Nationalism, Popular Prakashan, Bombay, (4th Ed.) 1966.
6. Deutsch, K.W., Nationalism and Social Communication, The Massachusetts Institute of Technology, Massachusetts (2nd Ed.), 1967.
7. Dowse, S.E. & Hughes, J.A., Political Sociology, John Wiley & Sons, London, 1972.
8. Eisenstadt, S.N., Essays on Sociological Aspects of Political And Economic Development, Mouton & Co. Hague, 1961.
9. Harwitz, I.L., Foundations of Political Sociology, Harper and Row Publishers, New York, 1972.
10. Hyman, H.H., Political Socialization, (Ind.Ed.), Amerind Publishing Co. Pvt. Ltd., New Delhi, 1972.
11. Indian Council of Social Science Research (Ed.) Studies in the Fourth General Elections, Allied Publishers, Bombay, 1972.
12. Johnson, H.M., Sociology: A Systematic Introduction, (Reprint) Allied Publishers Pvt. Ltd. Bombay, 1967.

13. Lipset S.M. (Ed.), Politics and the Social Sciences (Reprint), Wiley Eastern Pvt. Ltd., New Delhi, 1972.
14. Mackenzie, W.J.M., The Study of Political Science Today, Macmillan Press Ltd., London, 1971.
15. राजेंद्रकुमार शर्मा, राजनैतिक समाजशास्त्र एटलांटिक पब्लिशर्स एन्ड डिस्ट्रीब्यूटर्स, १९८९
16. शशिभूषण सिंह, राजनैतिक समाजशास्त्र के विविध आयाम, अर्जुन पब्लिशिंग हाऊस, नई दिल्ली, २०१२.
17. फाडिया बी.एल., राजनैतिक समाजशास्त्र, साहित्य भवन पब्लिकेशन, दिल्ली, २००८
18. जौहरी जे.सी., समकालीन राजनीतिक सिद्धांत, स्टर्लिंग पब्लिकेशन, प्रा.लि., १९९०.
19. परुथी आर.के. तुलणात्मक राजनीती, अर्जुन पब्लिशिंग हाऊस, दिल्ली २००९
20. इनामदार पुराणिक, राजकीय समाजशास्त्र, कॉन्टिनेंटल प्रकाशन, पुणे, १९८४
21. भोळे भास्कर लक्ष्मण, राजकीय विश्लेषण, पिंपळापुरे बुक डिस्ट्रीब्युटर्स, नागपूर, २००८
22. देवगांवकर एस.जी., राजकीय मानवंशास्त्र, श्री. साईनाथ प्रकाशन, नागपूर, २००९
23. भोळे भास्कर लक्ष्मण, राजकीय सिद्धांत आणि विश्लेषण, पिंपळापुरे बुक डिस्ट्रीब्युटर्स, नागपूर, २००२
24. देवगावकर श.गो., राजकीय समाजशास्त्र, श्री मंगेश प्रकाशन, नागपूर, २००१
25. आवारी विलास, देवरे सुरेश, आधुनिक राजकीय विश्लेषण, डायमंड पब्लिकेशन्स, पुणे, २०११
26. बोराळकर कृ.दि., आधुनिक राजकीय विश्लेषण, पिंपळापुरे ॲण्ड क. पब्लिशर्स, औरंगाबाद, १९९२
27. काचोळे दा.धो., राजकारणाचे समाजशास्त्र, कैलास पब्लिकेशन्स, औरंगाबाद, १९९८
28. कुलकर्णी बी.वाय., राजकीय समाजशास्त्र, कैलास पब्लिकेशन्स, औरंगाबाद, २००७.
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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
POLITICAL SCIENCE
Effective from June 2018
Class: B.A. THIRD YEAR
(CBCS Pattern)
Semester -VI
Paper Title: MODERN POLITICAL ANALYSIS
Paper-II
(Generic Elective Course)
GE -POL. SCI.

Credit: 03 **Periods: 55** **Marks: 75**

Course Rationale

This course acquaints students with the aspect of modern political analysis. Modern political analysis is very important in the view of political science study. In this course, student has to study about practical concept of political science like political Leadership, political parties and various behaviour approaches. This modern approach helps to study of politics and its various aspects. This course encourage to student in the field of political science.

Utility of Course

This paper content will helpful for student to draw new meaning as per recent time they can understand new concept of political science in the reference of modern age.

Learning Objective

This course main aim to acquaint to student about new concept in political science as like political Leadership, study of various approaches of human behavior in politics.

Course Content

		Periods	Marks
1)	**Emergence of Modern Political Analysis**	**-15-**	**-20-**
	1.1 Meaning, Definitions		
	1.2 Origin, Nature and Scope		
	1.3 Characteristics		
	1.4 Significance		

2)	**Approaches to the Study of Modern Political Analysis**	**-15-**	**-20-**
	2.1 Behavioural Approach		
	2.2 System approach		
	2.3 Structural Functional Approach		
3)	**Political Leadership**	**-15-**	**-20-**
	3.1 Meaning and Definition		
	3.2 Elements of Leadership		
	3.3 Qualities of Ideal Leadership		
	3.4 Types of Leadership		
4)	**Political Parties**	**-10-**	**-15-**
	4.1 Meaning and definition		
	4.2 Characteristics of Political Parties		
	4.3 Functions of Political Parties		
	4.4 Party Structure and Classification		

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24. आवारी विलास, देवरे सुरेश, आधुनिक राजकीय विश्लेषण, डायमंड पब्लिकेशन्स, पुणे, २०११
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26. काचोळे दा.धो., राजकारणाचे समाजशास्त्र, कैलास पब्लिकेशन्स, औरंगाबाद, १९९८
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34. तिजारे, पांढरीपांडे, पेशवे, आधुनिक राजकीय विश्लेषण, मंगेश प्रकाशन, नागपूर, १९८१

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

POLITICAL SCIENCE
Effective from June 2018
B. A. THIRD YEAR
(CBCS Pattern)
Semester - VI
SEC – IV - INDIAN DEMOCRACY & GOOD GOVERNANCE

Credit: 02	**Periods: 45**	**Marks: 50**

Course Rationale:

This Paper Provide the Conceptual Framework of the Democracy and Good Governance. It delves deep into meaning, origin, forms of Democracy and Good Governance in General.

Utility of the Course:

This Course will helpful and encourage students to Acknowledge Democratic Process in India.

Learning Objectives:

An intention of this paper is to understand origin, development and challenges before Good Governance in India.

Course Content	**Periods**	**Marks**
1. Democracy	**10**	**10**
1.1 Meaning & Definition		
1.2 Characteristics of Democracy		
1.3 Types of Democracy		
1.4 Merits and Demerits		
1.5 Obstacles in the way of Democracy		
2. Good Governance	**15**	**15**
2.1 Meaning and Definitions		
2.2 Silent Features of Good Governance		
2.3 Elements of Good Governance		
2.4 Obstacles in the way of Good Governance		

3.	**Development of Good Governance in India**	**10**	**10**
	3.1 Ancient Period (Kautilya)		
	3.2 Medieval Period (Mughal Period)		
	3.3 Modern Period – Pre-Independence and Post-Independence Period		
4.	**Democracy and Good Governance**	**10**	**15**
	4.1 The Needs of Good Governance in Democracy		
	4.2 The Role of Political Parties and Free Press and Citizens		
	4.3 Challenges before Democracy and Good Governance		

Readings (English, Hindi & Marathi):

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स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
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प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३ मे २०१७ रोजी संपन्न झालेल्या ३८व्या मा. विद्या परिषद बैठकीतील विषय क्र.१२४/३८–२०१७** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१७–१८ पासून लागू करण्यात येत आहेत.

१) बी.ए./बी.कॉम./बी.एस्सी.–इंग्रजी (अनिवार्य, द्वितीय भाषा अतिरिक्त, ऐच्छिक)–द्वितीय वर्ष
२) बी.ए.–हिंदी (ऐच्छिक)–द्वितीय वर्ष
३) बी.ए./बी.कॉम./बी.एस्सी.–कन्नड (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
४) बी.ए./बी.कॉम./बी.एस्सी.–मराठी (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
५) बी.ए./बी.कॉम./बी.एस्सी.–पाली (द्वितीय भाष, ऐच्छिक)–द्वितीय वर्ष
६) बी.ए./बी.कॉम./बी.एस्सी.–संस्कृत (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
७) बी.ए./बी.कॉम./बी.एस्सी./बी.एफ.ए./बी.एस.डब्ल्यू–उर्दू (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
८) बी.ए.–फॅशन डिझाईन–द्वितीय वर्ष
९) बी.ए.–अर्थशास्त्र–द्वितीय वर्ष
१०) बी.ए.–भूगोल–द्वितीय वर्ष
११) बी.ए.–इतिहास–द्वितीय वर्ष
१२) बी.ए.–मानव हक्क–द्वितीय वर्ष
१३) बी.ए.–ग्रंथालय व माहितीशास्त्र–द्वितीय वर्ष
१४) बी.ए.–जनसंवाद व पत्रकारिता–द्वितीय वर्ष
१५) बी.ए.–सैनिकशास्त्र–द्वितीय वर्ष
१६) बी.ए.–तत्त्वज्ञान–द्वितीय वर्ष
१७) बी.ए.–राज्यशास्त्र–द्वितीय वर्ष
१८) बी.ए.–मानसशास्त्र–द्वितीय वर्ष
१९) बी.ए.–लोकप्रशासन–द्वितीय वर्ष
२०) बी.ए.–समाजशास्त्र–द्वितीय वर्ष

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'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/८४
दिनांक : ०७.०६.२०१७.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणि (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, यू.जी.सी. कक्ष, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHAWADA UNIVERSITY, NANDED

SYLLABUS

POLITICAL SCIENCE

SEMESTER PATTERN
(CHOICE BASE CREDIT SYSTEM)

B.A. SECOND YEAR

[With effect from June 2017]

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Base Credit System Course structure
Faculty of social sciences
B.A. second year syllabus

Semester pattern with effect from June - 2017

SUBJECT: - POLITICAL SCIENCE

semester	Core course	Paper no.	Name of paper	Lectures per week	Total No. of lectures	CA	ESE	Total marks	credit
Semester - III	POL. SCI.	v	Indian Constitution	04	55	35	40	75	3
	POL. SCI.	VI	International relations	04	55	35	40	75	3
	SEC	I	Election management	03	45	25	25	50	2
		Total		**11**	**155**	**95**	**105**	**200**	**8**
Semester - IV	POL. SCI.	VII	Indian Government and politics	04	55	35	40	75	3
	POL. SCI.	VIII	International Organizations & Issues	04	55	35	40	75	3
	SEC	II	Political Journalism	03	45	25	25	50	2
		Total		**11**	**155**	**95**	**105**	**200**	**8**
	Grand Total		**Semester III + IV**	**22**	**310**	**190**	**210**	**400**	**16**

SEC = Skill Enhancement Course

SWAMI RAMANAND TEERTH MARATAWADA UNIVERSITY, NANDED
CBCS PAPER PATTERN IN THE SUBJECT OF
POLITICAL SCIENCE
B.A. SECOND YEAR
With Effect from June 2017.

SEMESTER - III

Paper No.	Title of paper	Continuous Assessment (C.A.)	End of Semester Examination (E.S.E.)
V	Indian Constitution	35	40
VI	International Relations	35	40
SEC - I	Election Management	25	25

SEMESTER - IV

Paper No.	Title of paper	Continuous Assessment (C.A.)	End of Semester Examination (E.S.E.)
VII	Indian government & politics	35	40
VIII	International Organizations & Issues	35	40
SEC - II	Political Journalism	25	25

Core Course:

1) **Continuous Assessment (C. A.)**: 35 Marks (Two class test each for 10 marks + one home assignment for 15 marks)
2) **End of Semester Examination (E.S.E.)**: 40 Marks

SEC: Skill Enhancement Course

1) **Continuous Assessment (C. A.)**: 25 Marks (To submit one report from the concerned syllabus for 20 marks & report presentation or interview for 05 marks)

2) **End of Semester Examination (E.S.E.)**: 25 Marks.

End of Semester Examination (ESE)
Question Paper Pattern
With Effect from June 2017.

A) Core Course (CCPOL):

*	MCQ (Multiple Choice Questions) 10 questions, each for one mark.	10 Marks
Q. 1	Descriptive question OR Descriptive question	10 Marks
Q. 2	Descriptive question OR Descriptive question	10 Marks
Q. 3	Write short notes on (any two). i) ii) iii) iv)	10 Marks

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B) Skill Enhancement Course (SEC):

Q. 1	Descriptive question OR Descriptive question	10 Marks
Q. 2	Descriptive question OR Descriptive question	10 Marks
Q. 3	Write short notes on (any one). i) ii) iii)	05 Marks

SWAMI RAMANAND TEERTH MARATAWADA UNIVERSITY, NANDED

POLITICAL SCIENCE

Effective from June 2017

B.A. Second Year (CBCS Pattern)

Semester - III

INDIAN CONSTITUTION - Paper V

Credits – 03 **Periods – 55** **Marks 75**

Objectives of Course:

This course acquaints students with the constitution, design of state structure, institutions and their actual working over time. The Indian constitution accommodates conflicting impulses of liberty and justice, territorial decentralization and a strong union for instance within itself. The course traces the embodiment some of these conflicts in constitutional provisions and shows how thus have played out in Political practices. In further, encourages a study of state institution in their mutual interaction with the larger extra constitutional environment.

Course Content:	**Periods**	**Marks**
1) Indian Constitution	**-12-**	**-15-**
1.1 The making of Indian Constitution		
1.2 Sources of Indian Constitution		
1.3 Preamble of Indian Constitution		
1.4 Features of Indian Constitution		
2) Constitutional Provisions	**-17-**	**-25-**
2.1 Fundamental Rights		
2.2 Fundamental Duties		
2.3 Directive Principles of State Policy		

3) Union Government -15- -20-

3.1 Legislature - structure, Powers & Functions
Loksabha , Rajyasabha

3.2 Executive - structure, Powers & Functions
President, Vice President, Prime minister, Cabinet

4) Supreme Court -11- -15-

4.1 Composition, Powers & Functions

4.2 Independence of Judiciary

4.3 Judicial Review

4.4 Judicial Activism

Readings (English, Hindi & Marathi):

1. Austin, Granville, The Indian Constitution, Corner Stone of a Nation Oxford Clarendon, 1996.

2. Basu, D.D., Introduction to the Constitution of India, 2002.

3. Johari, J.C., Indian Political System, Anmol Publication Pvt. Ltd., Delhi, 1996.

4. Pylee M. V., Constitutional Government in India, S. Chand and Co. Ltd., 1984.

5. Yerande V. L., Indian Government & Politics, Chandralok Prakashan, Kanpur, 2012.

६. काश्यप सुभाष, (२००५), हमारा संविधान, नॅशनल बुक ट्रस्ट , इंडीया, नई दिल्ली.

७. महला अशोक और पिकॉक, भारतीय राज्यव्यवस्था, अरिहंत पब्लिकेशन हाऊस, जयपूर.

८. सईद एस. एम., (२००३),भारतीय राजनीतिक व्यवस्था, सुलभ प्रकाशन, जयपूर.

९. जैन पुखराज और फडिया बी.एल., (२००८), भारतीय शासन एवं राजनीति, साहित्य भवन पब्लिकेशन्स, आगरा, १५ वा संस्करण.

१०. भोळे भा.ल., (जून २००३), भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापुरे ॲन्ड कं. पब्लिशर्स, नागपूर.

११. पळशीकर सुहास, देश-प्रदेश, युनिक अकॅडमी, पुणे.

१२. पवार प्रकाश, भारतीय शासन आणि नेतृत्वाची वाटचाल, डायमंड पब्लिकेशन, पुणे.

१३. पाटील विलास, भारतीय संविधान, के.सागर पब्लिकेशन, पुणे.

१४. पाटील बी.बी. व उर्मिला चव्हाण, भारतीय शासन आणि राजकारण, फडके प्रकाशन, कोल्हापूर.

१५. शिंदे सुनिल व ढवळे जयराम, भारताचे शासन आणि राजकारण, एज्युकेशनल पब्लिकेशन्स ॲन्ड डिस्ट्रीब्यूटर्स, औरंगाबाद.

१६. जोशी सुधाकर, भारतीय शासन आणि राजकारण, विद्या बुक पब्लिशर्स, औरंगाबाद.

१७. गव्हाणे अजय, (२०१४), संसदीय लोकशाहीची आयुधे, क्रिएटिव्ह पब्लिकेशन्स, नांदेड.

१८. मेहेत्रे डि. एच. व सोलापूरे राजशेखर, भारतीय शासन आणि राजकारण, अरुणा प्रकाशन, लातूर.

१९. कारेकर मंजिरी व सुवर्णा बेनके, भारताचे शासन आणि राजकारण, पिअरसन पब्लिकेशन, नवी दिल्ली.

२०. घांग्रेकर चिं. ग., (१९९७), भारतीय राज्यघटना : स्वरूप आणि राजकारण, श्रीमंगेश प्रकाशन , नागपूर

२१. जाधव तुकाराम व महेश शिरपूरकर, (२०११), भारतीय राज्यघटना व घटनात्मक प्रक्रीया, युनिक ॲकॅडमी, पुणे.

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SWAMI RAMANAND TEERTH MARATAWADA UNIVERSITY, NANDED

POLITICAL SCIENCE

Effective from June 2017

B.A. Second Year (CBCS Pattern)

Semester - III

INTERNATIONAL RELATIONS - Paper VI

Credits – 03 **Periods - 55** **Marks 75**

Objectives of Course:

International Relations is the study of interactions Students will acquire knowledge of the basic structure, processes & trends of International Politics. To understand the conceptual framework needed to systematic analysis of World Politics, understand and be capable of evaluating the validity of constructivist approach, To understand theories & concepts of International Relations, International Organization and non government organizations, Role of UN, International Law and contemporary critical issues in World politics, study of International Relations and develop the ability to think critically above current issues and the future of the world order.

Course Content:	**Periods**	**Marks**
1) International Relations	**-15-**	**-20-**
1.1 Meaning & Definition		
1.2 Nature		
1.3 Scope and Significance		
2) Approaches to the study of International Relations	**-17-**	**-25-**
2.1 Idealistic Approach		
2.2 Realistic Approach		
2.3 Decision Making Approach		
3) National Power	**-11-**	**-15-**
3.1 Meaning & Definition		
3.2 Elements		
3.3 Limitations		

4) Balance of Power **-12-** **-15-**

4.1 Meaning & Definition
4.2 Techniques
4.3 Types
4.4 Significance

Readings (English, Hindi & Marathi):

1. Hans. J. Morgenthan, Politics Among Nations, 6th Edition, New York, 1985.
2. R. Axelrod, The Evolution of Co-operation, New York, Basic Books, 1984.
3. D.A. Baldwin (ed.), Neo-realism and Neo-liberalism, New York, Columbia University Press, 1993.
4. C. Brown, *International Relations Theory*, London, Harvester Wheatsheaf, 1975.
5. R.E. Osgood and R.W. Tucker, *Force, Order and Justice,* Baltimore, Johns Hopkins Press, 1967.
6. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action,* Cambridge, Cambridge University Press, 1990.
7. नुरुल्ला बी.सी., आंतरराष्ट्रीय राजनीति, आर्जुन पब्लिशिंग हाऊस, नई दिल्ली.
8. घई यु.आर., आंतरराष्ट्रीय राजनीति, न्यु अकॅडमीक पब्लिशिंग कं., जालंधर.
9. सिंहल एस.सी., आंतरराष्ट्रीय संबंध, लक्ष्मीनारायण अग्रवाल पब्लिकेशन, नई दिल्ली.
10. रायपूरकर वसंत, (१९९४), आंतरराष्ट्रीय संबंध, मंगेश प्रकाशन, नागपूर.
11. देवळाणकर शैलेंद्र, (२०१६), आंतरराष्ट्रीय संबंध, विद्या बुक पब्लिशर्स, औरंगाबाद.
12. वराडकर रघुनंदन, (२०१४), आंतरराष्ट्रीय संबंध आणि राजकारण, विद्या प्रकाशन, नागपूर.
13. अमृतकर प्रशांत, (२००४), आंतरराष्ट्रीय संबंध, चिन्मय प्रकाशन, औरंगाबाद.
14. जोशी टि.ए., (१९९४), आंतरराष्ट्रीय संबंधाची ओळख, प्रकाशक - अंकिता काम्प्युटर्स, नांदेड.
15. लोटे रा.ज., (१९९५), आंतरराष्ट्रीय संबंध, पिंपळापुरे ॲन्ड कं. पब्लिशर्स, नागपूर.
16. जोरगुलवार भुषण, (१९९८), आंतरराष्ट्रीय संबंध, प्रकाशक-सौ.सुनिता कुलकर्णी, अहमदपूर.
17. शिंदे सुनिल व संतोष कोल्हे, आंतरराष्ट्रीय संबंध, एज्युकेश्नल पब्लिशर्स ॲन्ड डिस्ट्रीब्युटर्स, औरंगाबाद.
18. आघाव विलास व देविदास नरवाडे, (२०१४), आंतरराष्ट्रीय संबंध, कैलाश पब्लिकेशन, औरंगाबाद.
19. कुलकर्णी सुधाकर, (२००५), आंतरराष्ट्रीय संबंध: सिध्दांत आणि राजकारण, अरुणा प्रकाशन, लातूर.
20. कुलकर्णी बी.वाय., आंतरराष्ट्रीय संबंध, अरुणा प्रकाशन, लातूर.

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SWAMI RAMANAND TEERTH MARATAWADA UNIVERSITY, NANDED

POLITICAL SCIENCE
Effective from June 2017
B.A. Second Year (CBCS Pattern)
Semester - III
SEC - I - Election management

Credits – 02 **Periods - 45** **Marks-** 50

Objectives of Course:

This course will give introduction to the students of the debates, principles & practices of Election Management. Election, electoral, voting behavior, political participation, public opinion of the context of Democracies with special reference to India. It will familiarize the students with how to conceptualize & measures of election management using quantitative methods, with particular attending being paid to development basic skills pertaining to the collection, analyze and utilization of data.

Course Content :

1) **Election Management- -15- -20**
   1.1 Meaning & Definition of Election Management
   1.2 Election Commission: Structure, Power & Function
   1.3 Code of conduct for Election
   1.4 Electoral Reform

2) **Election Process - -10 - -10-**
   2.1 Voter Registration System
   2.2 Documental Proof for Voting
   2.3 Process of Nomination of Candidates in Election
   2.4 Terms & Conditions for Recognition to Political Parties

3) **Election Campaign & Methods - -10 - -10-**
   3.1 Direct Voting & Indirect Voting
   3.2 Management of Election Propaganda: Campaign, Use of Information Technology in Election, Visit to Voters
   3.3 Management & Structure of Pooling Booth
   3.4 Voter Awareness Campaign

4) Election & Political Participation - -10- -10-

4.1 Methods of Political Participation
4.2 Affected Factors of Voter Behavior
4.3 Voter Apathy – Nature, Causes & Remedies
4.4 Obstacles of Political Participation

Readings (English, Hindi & Marathi):

1. Bhambhri Chander Prakash, (2007), Democracy in India, National Book Trust, New Delhi, India.
2. Sharma K.N., Political Psychology, Print Well Publication, Jaipur.
3. वर्मा ज्योती, (२००७), सामाजिक जनांकिके, डिस्कवरी पब्लिसिंग हाऊस, नई दिल्ली.
4. बुथ लेवल अधिकारीयोंके लिए हँन्डबुक, (२०११) भारत निर्वाचन आयोग, निर्वाचन सदन, अशोक रोड नई दिल्ली.
5. वाधवा शालिनी, (२००३), भारतीय राजनीतिशास्त्र का विकास, अर्जुन पब्लिशिंग हाऊस, नई दिल्ली.
६. भोळे भा.ल., भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापुरे प्रकाशन, नागपूर.
७. पटवे दिपक, (२०१२), चला राजकारणात, राजहंस प्रकाशन, पुणे.
८. जाधव तुकाराम व शिरपूरकर महेश, भारतीय संविधान व भारतीय राजकारण, युनिक अकॅडमी, पुणे.
९. जोशी सुधाकर, भारतीय शासन आणि राजकारण, विद्या बुक्स पब्लिशर्स, औरंगाबाद.
१०. व्होरा राजेंद्र व पळशिकर सुहास (संपादक), लेले चित्रा (अनुवाद), भारतीय लोकशाही : अर्थ आणि व्यवहार, डायमंड पब्लिकेशन्स, पुणे, प्रथम मराठी आवृत्ती २०१०.
११. यादव योगेंद्र, पळशीकर सुहास व डिसुजा पिटर, (२०११), लोकशाही जिंदाबाद, समकालिन प्रकाशन, पुणे.
१२. निकाळजे तुषार, (२०१६), भारतीय निवडणूक प्रणाली : स्थित्यंतरे व आव्हाने, हरिती पब्लिकेशन्स, पुणे.
१३. बिथॅम डेव्हिड व केव्हीन बॉयल, मेहंदळे लिना (संपादक), (२००९), लोकशाही : ८० प्रश्न आणि उत्तरे, नॅशनल बुक ट्रस्ट, नवी दिल्ली, इंडिया.
१४. एरंडे वि.ल., (२०००), भारतीय लोकशाही : अपेक्षा आणि वास्तव, निर्मल प्रकाशन, नांदेड.
१५. शिंदे सुनिल व बालासाहेब किलचे, (२०१५), महाराष्ट्रातील राजकीय पक्षांचे सत्तापरिवर्तन: २०१४, साधना पब्लिकेशन्स, परभणी

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SWAMI RAMANAND TEERTH MARATAWADA UNIVERSITY, NANDED

POLITICAL SCIENCE

Effective from June 2017

B.A. Second Year (CBCS Pattern)

Semester - IV

INDIAN GOVERNMENT AND POLITICS - Paper VII

Credits – 03 **Periods – 55** **Marks 75**

Course Content :

1)	**Center State Relations**	**-11-**	**-25-**
2.1	Legislative		
2.2	Administrative		
2.3	Financial – Role of Niti Aayog		
2)	**Constitutional Authorities: Structure & Functions**	**-17-**	**-25-**
2.1	Election Commissioner of India		
2.2	Attorney General of India		
2.3	Comptroller & Auditor General of India		
3)	**Political Parties in India**	**-15 -**	**-20-**
3.1	Features of Political Party system in India		
3.2	Changing Nature of Political Party System		
3.3	Major Political Parties in India – Indian National Congress, Bhartiya Janata Party, Communist Party India, Communist Party India (M.)		
4)	**Challenges Before Indian Politics**	**-12-**	**15-**
4.1	Corruption		
4.2	Casteism		
4.3	Communalism		
4.4	Regionalism		

Readings (English, Hindi & Marathi):

1. Kothari Rajni, (2004), Caste in India, Orient Longman, Hyderabad
2. Austin, Granville, The Indian Constitution, Corner Stone of a Nation Oxford Clarendon, 1996.
3. Basu, D.D., Introduction to the Constitution of India, 2002.
4. Johari, J.C., Indian Political System, Anmol Publication Pvt. Ltd., Delhi, 1996.
5. Pylee M. V., Constitutional Government in India, S. Chand and Co. Ltd., 1984.
6. Yerande V. L., Indian Government & Politics, Chandralok Prakashan, Kanpur, 2012.

७. महला अशोक और पिकॉक, भारतीय राज्यव्यवस्था, अरिहंत पब्लिकेशन हाऊस, जयपूर.
८. काश्यप सुभाष (१९९८), भारतीय राजनिती और संसदः विपक्ष की भुमिका, राजकमल प्रकाशन, नई दिल्ली.
९. बाबेल बसंतीलाल, (१९९८), संसदीय प्रजातंत्र में विपक्ष की भुमिका, राजस्थान हिंदी ग्रंथ अॅकॅडमी, जयपूर
१०. जैन पुखराज और फडिया बी.एल., (२००८), भारतीय शासन एवं राजनीति, साहित्य भवन पब्लिकेशन्स, आगरा, १५ वा संस्करण.
११. भोळे भा.ल., (जून २००३), भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापुरे अॅन्ड कं. पब्लिशर्स, नागपूर.
१२. पळशीकर सुहास, देश-प्रदेश, युनिक अकॅडमी, पुणे.
१३. पवार प्रकाश, भारतीय शासन आणि नेतृत्वाची वाटचाल, डायमंड पब्लिकेशन, पुणे.
१४. पाटील विलास, भारतीय संविधान, के.सागर पब्लिकेशन, पुणे.
१५. पाटील बी.बी. व उर्मिला चव्हाण, भारतीय शासन आणि राजकारण, फडके प्रकाशन, कोल्हापूर.
१६. शिंदे सुनिल व ढवळे जयराम, भारताचे शासन आणि राजकारण, एज्युकेशनल पब्लिकेशन्स अॅन्ड डिस्ट्रीब्यूटर्स, औरंगाबाद.
१७. जोशी सुधाकर, भारतीय शासन आणि राजकारण, विद्या बुक पब्लिशर्स, औरंगाबाद.
१८. गव्हाणे अजय (२०१४), संसदीय लोकशाहीचे आयुधे, क्रिएटिव्ह पब्लिकेशन्स, नांदेड.
१९. मेहेत्रे डि.एच. व सोलापूरे राजशेखर, भारतीय शासन आणि राजकारण, अरुणा प्रकाशन, लातूर.
२०. कारेकर मंजिरी व सुवर्णा बेनके, भारताचे शासन आणि राजकारण, पिअरसन पब्लिकेशन, नवी दिल्ली.
२१. जाधव तुकाराम व महेश शिरपूरकर, (२०११), भारतीय राज्यघटना व घटनात्मक प्रक्रिया, युनिक अॅकॅडमी, पुणे.
२२. शिंदे सुनिल, (संपादक), (२०१३), संसदीय लोकशाहीतील विरोधी पक्ष : स्थान व भुमिका, अरुणा प्रकाशन, लातूर.

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SWAMI RAMANAND TEERTH MARATAWADA UNIVERSITY, NANDED

POLITICAL SCIENCE

Effective from June 2017

B.A. Second Year (CBCS Pattern)

Semester - IV

INTERNATIONAL ORGANISATION & ISSUES - Paper VIII

Credits – 03 Periods - 55 Marks 75

Course Content:

1) United Nations -17- -25-

1.1 Origin & Objectives

1.2 Structure & Functions -
General Assembly, Security Council, International Court, Secretarial

1.3 Success, Failures & Remedies

2) Regional Organizations: Structure, Objectives & Functions -12- -15-

2.1 SAARC

2.2 ASEAN

2.3 OPEC

2.4 BRICS

3) Arms Race, Arms Control and Disarmament -15- -20-

3.1 **Arms Race**
Meaning, Definition, Reasons & Effects

3.2 **Arms Control**
Meaning, Definition, Importance, Efforts: NPT, CTBT

3.3 **Disarmament**
Meaning, Definition, Importance

4) Major Issues in International Politics -11- -15-

4.1 Terrorism - Nature, Reasons & Remedies

4.2 Human Rights – Nature & Problems

4.3 Feminism – Nature & Challenges

Readings (English, Hindi & Marathi):

1. Hans. J. Morgenthan, Politics Among Nations, 6th Edition, New York, 1985.
2. R. Axelrod, The Evolution of Co-operation, New York, Basic Books, 1984.
3. D.A. Baldwin (ed.), Neo-realism and Neo-liberalism, New York, Columbia University Press, 1993.
4. C. Brown, *International Relations Theory*, London, Harvester Wheatsheaf, 1975.
5. R.E. Osgood and R.W. Tucker, *Force, Order and Justice,* Baltimore, Johns Hopkins Press, 1967.
6. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action,* Cambridge, Cambridge University Press, 1990.
7. नुरुल्हा बी.सी., आंतरराष्ट्रीय राजनीति, आर्जुन पब्लिशिंग हाऊस, नई दिल्ली.
8. घई यु.आर., आंतरराष्ट्रीय राजनीति, न्यु अकॅडमीक पब्लिशिंग कं., जालंधर, (पंजाब).
9. सिंहल एस.सी., आंतरराष्ट्रीय संबंध, लक्ष्मीनारायण अग्रवाल पब्लिकेशन, नई दिल्ली.
10. रायपूरकर वसंत, (१९९४), आंतरराष्ट्रीय संबंध, मंगेश प्रकाशन, नागपूर.
11. देवळाणकर शैलेंद्र, (२०१६), आंतरराष्ट्रीय संबंध, विद्या बुक पब्लिशर्स, औरंगाबाद.
12. वराडकर रघुनंदन, (२०१४), आंतरराष्ट्रीय संबंध आणि राजकारण, विद्या प्रकाशन, नागपूर.
13. अमृतकर प्रशांत, (२००४), आंतरराष्ट्रीय संबंध, चिन्मय प्रकाशन, औरंगाबाद.
14. जोशी टि.ए., (१९९४), आंतरराष्ट्रीय संबंधाची ओळख, प्रकाशक - अंकिता काम्प्युटर्स, नांदेड.
15. लोटे रा.ज., (१९९५), आंतरराष्ट्रीय संबंध, पिंपळापुरे ॲन्ड कं. पब्लिशर्स, नागपूर.
16. जोरगुलवार भुषन, (१९९८), आंतरराष्ट्रीय संबंध, प्रकाशक-सौ.सुनिता कुलकर्णी, अहमदपूर.
17. शिंदे सुनिल व संतोष कोल्हे, आंतरराष्ट्रीय संबंध, एज्युकेश्नल पब्लिशर्स ॲन्ड डिस्ट्रीब्युटर्स, औरंगाबाद.
18. आघाव विलास व देविदास नरवाडे, (२०१४), आंतरराष्ट्रीय संबंध, कैलाश पब्लिकेशन, औरंगाबाद.
19. कुलकर्णी सुधाकर, (२००५), आंतरराष्ट्रीय संबंधः सिध्दांत आणि राजकारण, अरुणा प्रकाशन, लातूर.
20. कुलकर्णी बी.वाय., आंतरराष्ट्रीय संबंध, अरुणा प्रकाशन, लातूर.

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SWAMI RAMANAND TEERTH MARATAWADA UNIVERSITY, NANDED
POLITICAL SCIENCE
Effective from June 2017
B.A. Second Year (CBCS Pattern)
Semester - IV
SEC II - Political Journalism

Credit -2 periods -45 marks -50

Objectives of Course:

This course will give introduction to the students of political journalism aims to provide voters with the information to formulate their own opinion and participate in community, local to global matter that will effect then. Political journalism is provided through different mediums in print, broadcast, online reporting, instant coverage of campaign, politics, event news, government status, election updates etc.

Course Content:

1) **Political Journalism -20 - -20-**

   1.1 **Political Journalism:** Meaning, Definition, Nature, Scope & Significance
   1.2 **Sources of Political Journalism**
   1.3 **Code of Conduct for Political Journalist**

2) **Methods of political journalism - 10- -10-**

   2.1 Commentary of Legislation
   2.2 Political Interview
   2.3 Press Conference
   2.4 Political Analysis
   2.5 Reporting of Political Events

3) **Politics and media -08- -11-**

   3.1 Influence of Media on Decision Making Process
   3.2 Role of Media in Leadership Development
   3.3 Role of Media in Awareness

4) Challenges before Political Journalism -07- -09-

4.1 Party Spirited News Papers
4.2 Commercialization of Journalism
4.3 Increases of Paid News
4.4 Violation of Code of Conduct
4.5 Fear of Political Journalism

Readings (English, Hindi & Marathi):

1. Carey Jams W. & Cates A. (2004), Journalism, Libraries Unlimited, West Port, London.
2. Vir Bala & Agrawal, Essentials of Practical Journalism, Concept Publication Camp, New Delhi.
3. Roy Barun, (2001), Beginner's Guide to Journalism, Pustak Mahal, Mumbai.
4. R. Ramkrishnan, (1994), Press & Politics in an Indian State, Delta Publishing House, Hyderabad.
5. Kamath M.V., (2002), Professional Journalism, Vikas Publishing House Pvt. Ltd., New Delhi.
6. चतुर्वेदी एन.पी., (२००५), जनसंचार एवं पत्रकारिता, पोईंटर पब्लिशर्स, जयपूर.
7. लेले रा.के., (२००४), मराठी वृत्तपत्रांचा इतिहास, कॉन्टीनेंटल प्रकाशन, पुणे-३०.
8. कुलकर्णी प्रकाश, (१२ सप्टेंबर १९८९), माध्यम, श्रीविद्या प्रकाशन, पुणे-३०.
9. खांबेटे सतिश व योगेंद्र ठाकुर, (१३ ऑगस्ट २००६), पत्रकारिता एक आव्हान, आमोद प्रकाशन, मुंबई.
10. कोळमकर अनंत, (२००६), बातमीदाराचा जाहिरनामा, हिमालया पब्लिशिंग हाऊस, मुंबई.
11. सोनकांबळे कविता, (२०१६), मीडिया आणि राजकारण, निर्मल प्रकाशन, नांदेड.

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

ACADEMIC (1-BOARD OF STUDIES) SECTION

Phone: (02462) 229542
Fax : (02462) 229574
Website: www.srtmun.ac.in **E-mail: bos.srtmun@gmail.com**

संलग्नित महाविद्यालयातील सी.बी.सी.एस. पॅटर्नचा बी.ए. राज्यशास्त्र (प्रथम वर्ष) अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक १२ मे २०१६ रोजी संपन्न झालेल्या ३६व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.१०/३६–२०१६** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील सामाजिक शास्त्रे विद्याशाखेतील** खालील विषयाचा **सी.बी.सी.एस. पॅटर्नचा** अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्यात येत आहे.

१. बी.ए. राज्यशास्त्र (प्रथम वर्ष))

सदरील अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहे. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक(१)/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/**५५६**
दिनांक : २०.०७.२०१६.

स्वाक्षरित/–
संचालक
महाविद्यालय व विद्यापीठ विकास मंडळ

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. परीक्षा नियंत्रक यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH
MARATHWADA UNIVERSITY, NANDED

SYLLABUS

POLITICAL SCIENCE

Semester Pattern

(Choice Base Credit System)

B.A. FIRST YEAR

(With Effective from 2016-17)

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS)

SEMESTER PATTERN

B.A. (UG) Programme under Faculty of Social Science

(Affiliated Colleges)

(With Effect from Academic Year 2016-17)

Name of the Faculty: **Social Science**

Total Credit: **158** Average Credits Per Semester**: 26**

Note:

- Assessment Shall Consist of Continuous Assessment (CA) and End of Semester Examination (ESE)
- Weightage : % for ESE & % for CA
- Each Paper is of 3 Credits
- **Paper- (Elective) Transfer of Credit as per Student choice.**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New scheme)

Faculty of Social Science

B. A. First Year Syllabus

Semester Pattern effective from 2016-17

Subject: Political Science

Semester	Core course	Paper No.	Name of Paper	Lectures / week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester -I	CCPOL-I	I	Political Theory	4	55	35	40	75	3
	CCPOL-II	II	Govt. and Politics of Maharashtra	4	55	35	40	75	3
			Total - I	**8**	**110**	**70**	**80**	**150**	**6**
Semester-II	CCPOL-I	III	Political Theory	4	55	35	40	75	3
	CCPOL-II	IV	Govt. and Politics of Maharashtra	4	55	35	40	75	3
				8	**110**	**70**	**80**	**150**	**6**
			Total-I-II	**16**	**220**	**140**	**160**	**300**	**12**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New scheme)

Faculty of Social Science

B. A. Second Year Syllabus

Semester Pattern effective from 2017-18

Subject: Political Science

	Core course	Paper No.	Name of Paper	Lectures / week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester. III	CCPOL-I	V	Indian Govt. and Politics	4	55	35	40	75	3
	CCPOL-II	VI	International Relation	4	55	35	40	75	3
	SEC-I			3	45	25	25	50	2
		Total		**11**	**155**	**95**	**105**	**200**	**8**
Semester. IV	CCPOL-I	VII	Indian Govt. and Politics	4	55	35	40	75	3
	CCPOL-II	VIII	International Relation	4	55	35	40	75	3
	SEC-II			3	45	25	25	50	2
				11	**155**	**95**	**105**	**200**	**8**
		Total		**22**	**310**	**190**	**210**	**400**	**16**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New scheme)

Faculty of Social Science

B. A. Third Year Syllabus

Semester Pattern effective from 2018-19

Subject: Political Science

Semester		Paper No.	Name of Paper	Lectures/ week	Total No.of Lectures	CA	ESE	Total Marks	Credits
Semester-V	CCPOL-A	IX	Western Pol Thou.	4	55	35	40	75	3
	CCPOL-B	X	Govt &Pol. UK	4	55	35	40	75	3
	CCPOL-C	XI	Ind..Pol Thi	4	55	35	40	75	3
	OR	XI	Ind.foreign polic	-	-	-	-	-	-
	SEC-III			3	45	25	25	50	2
			TOTAL	**15**	**210**	**130**	**145**	**275**	**11**
Semester-VI	CCPOL-A	IX	Western Pol Thou.	4	55	35	40	75	3
	CCPOL-B	X	Govt &Pol. UK	4	55	35	40	75	3
	CCPOL-C	XI	Ind..Pol Thi	4	55	35	40	75	3
	OR	XI	Ind.foreign polic	-	-	-	-	-	-
	SEC-III			3	45	25	25	50	2
			TOTAL	**15**	**210**	**130**	**145**	**275**	**11**
			TOTAL (V-VI)	**30**	**420**	**260**	**290**	**550**	**22**

Structure of B.A. Programme under CBCS Pattern

(Social Science & Arts& Humanities Faculty)

Semester	CORE COURSE(12)	Ability Enhancement Compulsory Courses (AEC) (8)	Skill Enhancement Courses (SEC) (4)	Discipline Specific Elective DSE (6)	Generic Elective (6)
	CC-A I- 6	1 .English - 3			
I	CC-B I-6	Communication			
Credits : 24	CC-C I-6	2. SL - 3			
II	CC- A II-6	1 .English - 3			
Credits : 24	CC- B II-6	Communication			
	CC- C II-6	2. SL - 3			
III	CC- A III-6	2 .English - 3	**SEC-I - 2**		
Credits : 26	CC- B III-6	Communication			
	CC- C III-6	3. SL - 3			
IV	CC- A IV-6	2 .English - 3	**SEC-II - 2**		
Credits : 26	CC- B IV-6	Communication			
	CC- C IV-6	3. SL - 3			
V				DSE- A I - 6	GE-A I - 3
Credits : 29			**SEC-III- 2**	DSE- B I - 6	GE-B I - 3
				DSE- C I - 6	GE-C I - 3
VI				DSE- A II- 6	GE-A II-3
Credits : 29			**SEC-IV- 2**	DSE- B II- 6	GE-B II-3
				DSE- C II- 6	GE-C II-3
Total Credits :158	**No. Credits: 72**	**No. Credits: 24**	**No. Credits: 8**	**No. Credits: 36**	**No. Credits: 18**

Structure of B.A. Programme under CBCS Pattern

(Social Science & Arts& Humanities Faculty)

Semester	Course Opted	Course Name	Credits
	Ability enhancement compulsory	1.English Communication	03
I	course- I	2.SL	03
	Core Course A-I	Paper A & B	06
	Core Course B-I	Paper A & B	06
	Core Course C-I	Paper A & B	06
	Total Sem I		**24**
II	Ability enhancement compulsory	1. English Communication	03
	course- II	2. SL	03
	Core Course A-II	Paper A & B	06
	Core Course B-II	Paper A & B	06
	Core Course C-II	Paper A & B	06
	Total Sem II		**24**
	Total Sem I & II		**48**
Semester	**Course Opted**	**Course Name**	**Credits**
III	Ability enhancement compulsory	1. English communication	03
	course- III	2. SL	03
	Core Course A-III	Paper A & B	06
	Core Course B-III	Paper A & B	06
	Core Course C-III	Paper A & B	06
	Skill enhancement course I	SEC-I	02
	Total SemIII		**26**
IV	Ability enhancement compulsory	1. English communication	03
	course- IV	2. SL	03
	Core Course A-IV	Paper A & B	06
	Core Course B- IV	Paper A & B	06
	Core Course C- IV	Paper A & B	06
	Skill enhancement course- II	SEC-I	02
	Total Sem. IV		**26**
	Total (Sem III & IV)		**52**
Semester	**Course Opted**	**Course Name**	**Credits**
V	Discipline Specific Elective A-I	DSE A- I	06
	Discipline Specific Elective B-I	DSE B- I	06
	Discipline Specific Elective C-I	DSE C- I	06
	Generic Elective GE -A I	GE -A I	03
	Generic Elective GE -B I	GE -B I	03
	Generic Elective GE -C I	GE -C I	03
	Skill enhancement course III	SEC-III	02
	Total Sem V		**29**
IV	Discipline Specific Elective A-II	DSE A- II	06
	Discipline Specific Elective B-II	DSE B- II	06
	Discipline Specific Elective C-II	DSE C- II	06
	Generic Elective GE -A II	GE -A II	03
	Generic Elective GE -B II	GE -B II	03
	Generic Elective GE -C II	GE -C II	03
	Skill enhancement course IV	SEC-IV	02
	Total Sem. VI		**29**
	Total (Sem. V & VI)		**58**
	Total Course Credit		**158**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

CBCS-*Paper Pattern in the Subject of*

POLITICAL SCIENCE

B.A. First Year

(Effective from 2016-17)

SEMESTER-I

Paper No	Title of the Paper	Internal Marks	External Marks
I	Political Theory	**35**	**40**
II	Government and Politics of Maharashtra	**35**	**40**

SEMESTER-II

Paper No	Title of the Paper	Internal Marks	External Marks
III	Political Theory	**35**	**40**
IV	Government and Politics of Maharashtra	**35**	**40**

1) Internal Marks	**35** Marks
2) External Marks	**40** Marks

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Political Science

(With Effective from 2016-17)

B.A. First Year

SEMESTER - I

Political Theory Paper - I

Credits: 03 Periods: 55 **Marks: 75**

Course Rationale:

This is an introductory paper to the concepts; ideas and theories in political theory. It seeks explain the evolution and usage of these concepts, ideas and theories with reference to individual thinkers both historically and analytically. The different ideological standpoints with regard to various concepts and theories are to be critically explained with the purpose of highlighting the difference in their perspectives and in order to understand their continuity and change. Furthermore there is a need to emphasize the continuing relevance of these concepts today and explain how in idea and theory of yester years gains prominence in contemporary political theory.

Course Content:	**Periods**	**Marks**
i) Political Theory	**06**	**10**
Definition, Meaning, Nature, Scope and Significance		
ii) State	**15**	**25**
Definition and Elements of State Theories of the Origin of the State, Divine, Force, Social Contract and Evolutionary Theory.		
iii) Government	**15**	**25**
Definition and Meaning, Organs of Government Legislature, Executive and Judiciary, Types of Government Unitary, Federal, Parliamentary & Presidential		
iv) Sovereignty	**09**	**15**
Definition, Meaning, Types & Features, Austin's Theory of Sovereignty, Pluralistic Theory of Sovereignty		

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

B.A. First Year -Political Science

(With Effective from 2016-17)

SEMESTER - II

Political Theory Paper - III

Credits: 03 Periods: 55 **Marks: 75**

		Periods	Marks
i)	**Citizenship and Rights**	**09**	**15**
	Meaning and Types of Citizenship		
	Meaning and Types of Rights		
ii)	**Liberty, Equality and Justice**	**15**	**25**
	Definitions, Meaning and Kinds of Liberty,		
	Equality and Justice Relationship between		
	Equality and Liberty, Social Justice		
iii)	**Democracy**	**15**	**25**
	Definition, Meaning, Characteristics and Types		
	Merit and Demerits		
	Conditions for the Success of Democracy		
iv)	**Welfare State**	**06**	**10**
	Meaning, Nature and Functions of Welfare State		

Readings:

1. Mishra K.K. - Modern Political Theory
2. Varma S.P. - Modern Political Theory
3. Ramaswamy S. - Political Theory, Ideas and Concepts
4. Barkar Earnest - Principle of Social and Political Theory
5. Gauba O.P. - An Introduction to Political Theory
6. Ray and Bhattacharya - Political Ideas and Institutions
7. कुलकर्णी सुधाकर - राजकीय सिध्दांत
8. येरणकर श्रीराम - राजकीय सिध्दांत
9. चोपडे किसन - राजकीय सिध्दांताची मूलतत्वे
10. भोळे भा.ल. - राजकीय सिध्दांत
11. बोराळकर कृ.दी - राजकीय सिध्दांत
12. काणे प.सी - राजकीय सिध्दांत
13. खेडकरडी.ए - राजकीय सिध्दांतातील मुलभुत संकल्पना

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY,

NANDED

B.A. First Year -Political Science

(With Effective from 2016-17)

SEMESTER - I

Government and Politics of Maharashtra Paper - II

Credits: 03 Periods: 55 **Marks: 75**

Course Rationale:

This paper gives an in depth insight to the level of state politics in India. In this context it offers to study the patterns of state politics especially in the light of politics of Maharashtra. It not only deals with evolution or formation of Maharashtra state but focus on the changing nature of political culture thereof, and the role of different regional parties in shaping states political system. Followed by structure and function of state government, state legislature, and local self-government, followed by Electoral process which is responsible for stability or instability of Maharashtra political system.

Course Content:		**Periods**	**Marks**
i)	**Formation of Maharashtra State**	**06**	**10**
	State Reorganization Commission Sanyukta Maharashtra Movement		
ii)	**State Government**	**15**	**25**
	i) Governor - Powers and Functions ii) Chief Minister - Powers and Functions iii) Council of Minister - Powers and Functions		
iii)	**State Legislature**	**15**	**25**
	i) Legislative Assembly Composition, Power and Functions ii) Legislative Council - Composition – Power and Functions		
iv)	**Judiciary**	**09**	**15**
	High Court, District Court, Taluka Court Composition - Power and Functions		

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY,

NANDED

B.A. First Year -Political Science

(*With Effective from 2016-17)*

SEMESTER - II

Government and Politics of Maharashtra Paper - II

Credits: 03 Periods: 55 **Marks: 75**

		Periods	Marks
i)	**Local Self Government (Rural Govt.)**	**08**	**13**
	Gram Panchayat - Composition - Power and Functions Panchayat Samiti and Zilla Parishad - Composition - Power and Functions Main Features of 73rd Constitutional Amendment		
ii)	**Local Self Government (Urban Govt.)**	**12**	**20**
	Municipal Corporation - Composition - Power and Functions Municipal Councils - Composition - Power and Functions Main Features of 74th Constitutional Amendment		
iii)	**Political Parties in Maharashtra**	**15**	**25**
	Features of Political Parties i) Nationalist Congress Party ii) Shivsena iii) Maharashtra Navanirman Sena iv) Republican Party v) Shetkari Kamgar Paksha		
iv)	**Electoral Process**	**10**	**17**
	Structure and Functions of State Election Commission Role of Election Commission Patterns of Voting Behaviour and Factors Influencing the Voting Behaviour		

Readings:

1. Bharadwaj R.K. - Urban Development in India
2. Mathur - India - Challenge of Urban Govt.
3. Palshikar & Deshpande - Maharashtra : Electoral Politics and Structure of Domination
4. जैन अशोक महाराष्ट्राचे शासन आणि राजकारण
5. साने रविकिरण,साने निलिमा महाराष्ट्राचे शासन आणि राजकारण
6. पाटील वी.बी महाराष्ट्राचे शासन आणि राजकारण
7. शिंदे सुनिल,भालेराव सुरेश महाराष्ट्राचे शासन आणि राजकारण
8. खांदवेएकनाथ महाराष्ट्राचे शासन आणि राजकारण
9. मोरे, पवार,सोलापूरे महाराष्ट्राचे शासन आणि राजकारण
10. फडके य.दि. विसाव्या शतकातील महाराष्ट्र
11. श्रीरसागर आर.के. भारतीयरिपब्लिकन पक्ष
12. फडणीसजगन शेकाप
13. बेडकर बी.के संयुक्त महाराष्ट्रत ात्वीक बैठक
14. गडकरी माधव संयूक्त महाराष्ट्र लढयातील महारधी
15. भावे मधुकर यशवंतराव ते विलासराव

PAPER TITLES

B.A. Fist Year (Semester-I) w.e.f. June, 2016

Paper No.	Title of the Paper	Internal Marks	External Marks
I	Political Theory	35	40
II	Government and Politics of Maharashtra	35	40

B.A. Fist Year (Semester-I) w.e.f. June, 2016

Paper No.	Title of the Paper	Internal Marks	External Marks
III	Political Theory	35	40
IV	Government and Politics of Maharashtra	35	40

B.A. Fist Year (Semester-I) w.e.f. June, 2017

Paper No.	Title of the Paper	Internal Marks	External Marks
V	Indian Government and Politics	35	40
VI	International Relations	35	40

B.A. Second Year (Semester-IV) w.e.f. June, 2017

Paper No.	Title of the Paper	Internal Marks	External Marks
VII	Indian Government and Politics	35	40
VIII	International Relations	35	40

B.A. Third Year (Semester-V) w.e.f. June, 2018

Paper No.	Title of the Paper	Internal Marks	External Marks
IX	Western Political Thoughts	35	40
X	Government and Politics of Major Countries (UK)	35	40
XI	Indian Political Thinkers	35	40
	OR		
XI	India's Foreign Policy	35	40

B.A. Third Year (Semester-VI) w.e.f. June, 2018

Paper No.	Title of the Paper	Internal Marks	External Marks
XII	Western Political Thoughts	35	40
XIII	Government and Politics of Major Countries (USA, China)	35	40
XIV	Indian Political Thinkers	35	40
	OR	35	
XIV	India's Foreign Policy	35	40

* * *

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
Phone: (02462) 229542
Fax : (02462) 229574
Website: www.srtmun.ac.in
E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक २२ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १५/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

01. B. A. -III Year- Marathi
02. B. A.- III Year- Hindi
03. B. A. - III Year- English
04. B. A. -III Year- Urdu
05. B. A. - III Year- Sanskrit
06. B. A. -III Year- Pali
07. B. A. - III Year- Kannada
08. B. A.- III Year- Economics
09. B. A.- III Year- Policital Science
10. B. A.- III Year- Sociology
11. B. A.- III Year- Philosophy
12. B. A.- III Year- Geography
13. B. A. -III Year – Psychology
14. B. A. - III **Year History**
15. B. A.-III Year- Public Administration
16. B. A.- III Year- Military Science
17. B. A.-III Year- Administrative Services

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक बी.ए./पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/८७
दिनांक : २४.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. प्र. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग मानवविज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University Nanded

B.A. Third Year (Semester :-V &VI)
Subject :- Public Administration

(With Effective from June 2021)

Swami Ramanand Teerth Marathwada University Nanded

CHOICE BASED CREDIT SYSTEM (CBCS)

B.A. Third Year (Semester:-V &VI)

Subject :- Public Administration

Under Faculty of Humanities

(For Affiliated Colleges)

(With Effective from June 2021)

Name of the Faculty: Humanities

Total Credit :16

Note:

C.A: - Continuous Assessment

ESE :- End of Semester Examination (E.S.E.)

DSE:- Discipline Specific Elective

DGE :- Discipline Generic Elective

SEC :- Skill Enhancement Course

Swami Ramanand Teerth Marathwada University, Nanded

Course Structure

Faculty Of Humanities Subject: Public Administration

B.A. Third Year (Semester V & VI) Syllabus

Effective from 2021-22

Semester	Course Name	Paper No.	Name of Paper	Lectures / Week	Total No. Of Lecture	C.A.	E.S.E.	Total Mark	Credits
Semester V	DSEPA-I	IX	Indian Administrative Thinkers	04	55	25	50	75	03
	DGEPA-I	X	Indian Administration ---------or------- Office Administration	04	55	25	50	75	03
	SECPA-III	SEC III	Disaster Management	04	40	25	25	50	02
			Total Sem. V	12	150	75	125	200	08
Semester VI	DSEPA-II	XI	Western Administrative Thinkers	04	55	25	50	75	03
	DGEPA-II	XII	Indian Constitution & Administration ----------or------ Resent Trends in Public Administration	04	55	25	50	75	03
	SECPA-IV	SEC IV	Administration of N.G.O.	04	40	25	25	50	02
			Total Sem.VI	12	150	75	125	200	08
			TOTAL SEM.V& VI	22	300	150	250	400	16

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

CBCS – Paper Evaluation Pattern in the Subject of Public Administration

B.A. Third Year Semester – V & VI

(Effective from June 2021)

B.A. Third Year Semester – V

Paper No.	Title of the Paper	Internal Mark (CA)	End Semester Exam (ESE)	Total (CA+ESE)
DSEPA-I	Indian Administrative Thinkers	25	50	75
DGEPA-I	Indian Administration ---------or--------- Office Administration	25	50	75
SECPA-III	Disaster Management	25	25	50

B.A. Third Year Semester – VI

Paper No.	Title of the Paper	Internal Mark (CA)	End Semester Exam (ESE)	Total (CA+ESE)
DSEPA-II	Western Administrative Thinkers	25	50	75
DGEPA-II	Indian Constitution & Administration --------or---------- Recent Trends in Public Administration	25	50	75
SECPA-IV	Administration of N.G.O.	25	25	50

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. Third Year Sem. – V&VI

End Semester Examination

Question Paper Pattern

Time: Two Hours **Total Marks :50**

Q.No.1	**Descriptive Questions** **Or** **Descriptive Questions**	**10 marks**
Q.No.2	**Descriptive Questions** **Or** **Descriptive Questions**	**10 marks**
Q.No.3	**Descriptive Questions** **Or** **Descriptive Questions**	**10 marks**
Q.No.4	**Descriptive Questions** **Or** **Descriptive Questions**	**10 marks**
Q.No.5	**Write short notes on any two.** **A)** **B)** **C)** **D)**	**10 marks**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. Third Year (Semester – V)

Discipline Specific Elective Paper No:- DSEPA-I

Indian Administrative Thinkers-IX

(Effective from June 2021)

Course Rational

Public Administration is one of the youngest branches of Faculty of Humanities. With the expansion of the activities of modern state, public administration has assumed great significance in modern society. Administrative Thinkers and their contribution is an important part of public administration. The main thing is to impart knowledge of Indian and western administrative theories.

Learning Objectives:

After studying the course students will have a capacity to understand:

1) Basic Knowledge of various Indian Administrative Thoughts.
2) The approaches of study of Rural Development.
3) To Understand the Administrative system of period of Chhatrapati Shivaji Maharaj.

Utility of the course

The students will be channelized to learn and understand various theories put forth by Indian administrative thinkers regarding public administration. Through the narratives described in the course students will be made acquainted with ancient theories advocated by administrative thinkers like Kautilya about good governance and his views about eradication of corruption.

Course Content	Periods	Marks
1) Kautilya		
A) Views on Good Governance	**10 Periods**	**15**
B) Views on Corruption		
C) Saptang Theory		

2) Chhatrapati Shivaji Maharaj **10 Periods** **15**

A) Ashta Prdhan Mandal : **:** Structure and Functions
B) Revenue Administration : Structure and Functions
C) Judicial Administration : Structure and Functions

3) Mahatma Gandhi **08 Periods** **15**

A) Thoughts on Gram Swrajya
B) Concept of Trusteeship

4) Dr. B. R. Ambedkar

A) Views on Administration **12 Periods** **15**
B) Law & Judicial System
C) Water Policy

5) Pandit Jawaharlal Nehru **10 Periods** **15**

A) Civil Service and Administration
B) Socialism and Administration
C) Democratic Decentralization

Reference Books

1) S.R. Maheshwari, Administrative Thinkers, - Macmillan Indian Ltd., Mumbai

2) R.K. Sapru, Administrative theory and Management thought, Prentice Hall of India, New Delhi
3) Rawlinson H.G., Shivaji The Maratha his Life and Time, Uppal Publication, New Delhi

4) जी.एस. सुधा,प्रबंध चिंतन का इतिहास, आर.बी.एस.ए. पब्लिशर्स जयपूर
5) अशोक कुमार दुबे,प्रशासकीय विचारक,टी.एम.एच.पब्लिशर्स,नई दिल्ली
6) डॉ.सुरेंद्र कटारिया, प्रशासनिक चिंतक,नँशनल पब्लिकेशन हाऊस, नई दिल्ली
7) डॉ.नरेंद्र थोरी ,प्रशासनिक विचारक,आर.बी.एस.ए. पब्लिशर्स जयपूर
8) जोशी लक्ष्मणशास्त्री, संपादक,मराठी विश्वकोश खंड१०महाराष्ट्र राज्य विश्वकोश निर्मिती मंडळ, ,मुंबई
9) गर्गे स.मा. भारतीय समाजविज्ञान कोश, समाजविज्ञान मंडळ, पुणे 1989
10) डॉ. थोरात सुखदेव,बाबासाहेब आंबेडकर नियोजन,जल व विद्युत विकास भूमिका व योगदान,सुगावा प्रकाशन ,पुणे ३०
11) डॉ.धर्मवीर(आय.ए.एस.), डॉ.आम्बेडकर के प्रशासकीय विचार,वाणी प्रकाशन ,दर्यागंज नवी दिल्ली
12) प्रा.लक्ष्मण कोत्तापल्ले,पाश्चिमात्य व भारतीय प्रशासकीय विचारवंत,निर्मल प्रकाशन नांदेड
13) प्रा.के.आर.बंग,प्रशासकीय विचारवंत,विद्या प्रकाशन,औरंगाबाद
12) डॉ.श्याम शिरसाट, डॉ.भगवान बैनाडे व डॉ.जितेंद्र वासनिक, प्रशासकीय विचारवंत,ज्ञानसमिधा पब्लिकेशन,औरंगाबाद

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Public Administration

B.A. Third Year Semester - V

Discipline Generic Elective Paper No:- DGEPA-I

Indian Administration-X

(Effective From June 2021)

Course Rational

Indian Constitution and Administration is playing impartment role in social and economic development of the Nations .The course will throw light on details of the formation and working of Indian Constitution and Administration. The course covers the part which is commonly added in U.P.S.C.,M.P.S.C. and other competitive exams. This course would focus on the Framework Indian Constitution and Administration

Utility of the course

The Content of the course will enable the students to prepare themselves for various competitive examinations such as U.P.S.C.,M.P.S.C. and other competitive examinations. The students will learn and try to understand the functioning of Indian Administrative System. Due to the course the students will be understand the role of administration in Nation development.

Learning Objectives

After studying the course students will have a capacity to understand :

1) To Understand the Administrative system of India
2) To identify various silent features of Indian Administration.
3) To introduce the Historical background of Indian Administration .

Course Content	Periods	Marks
1)Historical Background of Indian Administration	**10**	**15**

A) Administration in Ancient Period

(With special Reference to Urban Administration of Sindhu Culture period)

B) Administration in Medieval Period

(With special Reference to Revenue Administration of Akbar)

C) Administration in British Period

(Administrative system Under the 1935 Act)

2) **Indian Administration :Post 1947** **10** **15**

A) Post independent Structure of Indian Administration

B) Salient Features of Indian Administration

3) Union Government and Administration **10** **15**

a) **The President :** Power and Functions

b) **Prime Minister :** Power and Functions

c) **Council of Minister's :** Structure and Functions

d) **Prime Minister's Office :** Structure and Functions

4)) Indian Parliament: **10** **15**

A) **Rajya Sabha :** Structure & Functions

B) **Lok Sabha :** Structure & Functions

5) Judicial Administration **10** **15**

A)Supreme Court of India : Structure & Functions

B) Judicial Activism

Reference Books

1] Mishra B.B., The Central Administration of the East India Company Orford press.Delhi

2] Basu Durgadas, Introduction to the constitution of India, Wadhwa, and Co., Nagpur.

3] Maheshwari Shriram, Indian Administration, Kitab Mahal, New Delhi.

4] Hoshiyar Singh, Indian Administration, Kitab Mahal, New Delhi.

5] Vidya Bhushan & Vishnu Bhagwan, Indian Administration, S.Chand & Com., New Delhi.

6] Ghai K.K., Indian Government and Politics , Kalyani Publishers, Ludhiyana.

7] Gupta Jawaharlal, Union Government and Administration,Dominant Publishers,New Delh

8)Ramchandran Padma,Public Administration in India, National Book Trust, New Delhi

9) Arora Ramesh, Indian Administration, Vishwas Prakashan, New Delhi

10)Jitendra Wasnik, Rural Development Administration in India, HSRA Publications, Bangalore

11)Maheshwari Shriram, Indian Administration, Orient Longman, New Delhi
12) भोळे भा. ल. , भारतीय गणराज्याचे शासन व राजकारण पिंपळापूरे पब्लिकेशन्स नागपूर
13) बंग के आर , भारतीय प्रशासन विद्या प्रकाशन, औरंगाबाद
14) डॉ. विळेगावे व्यंकट आणि डॉ. यमलवाड गोविंद भारतीय प्रशासन क्रिएटिव्ह पब्लिकेशन्स नांदेड
15) डॉ. सतीश ठोंबरे, भारतीयप्रशसन ,अभिजित प्रकाशन ,लातूर
16) पाटील बी.बी. भारतीय शासन व राजकारण, फडके प्रकाशन कोल्हापूर.
17) डॉ. प्रीती पोहेकर, भारतीय प्रकाशन उदय व विकास, अरुणा प्रकाशन लातूर
18) डॉ पंचशील एकबेकर & डॉ. उलगडे लक्ष्मण, भारतीय लोकशाही आणि कल्याणकारी राज्य, अरूणा प्रकाशन लातूर
19) डॉ. श्यामसुंदर वाघमारे, डॉ.प्रा.सुरेश गजभारे प्रा.सुर्यवंशी, भारतीय प्रशासनाची रूपरेषा,राजमुद्रा प्रकाशन लातूर

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Public Administration

B.A. Third Year Semester – V

Discipline Specific Elective Paper No:- DSEPA- I (Or)

Office Administration-X (Or)

(Effective From June 2021)

Course Introduction:

Everyone knows what is meant by an 'Office' but very few are able to define it. Office Administration is a part of general management. The main aim of the paper Office Administration is to introduce the process of the work method. What is role of head of the office in office administration? How to keep safely and smoothly maintain office records & environment.

Course Objectives:

1. To understand the meaning of Office Administration.
2. To introduce the Office Procedure and Method.
3. To identify various problems in Office Administration.

Course Content	Periods	Marks
1) Office Administration - Meaning, Importance & Functions	**10**	**15**
2) Office Environment	**10**	**15**
a) Office Lighting – Meaning and Importance		
b) Noise Control - Meaning and Importance		
c) Sanitation - Meaning and Importance		
3) Office Procedure and Method	**10**	**15**
a) Head of Institute – Qualities and Function		
b) Establishment - Function		
c) Filing – Meaning and Method		
4) Working of Office Administration	**10**	**15**
a) Manuals – Meaning and Type		
b) Reporting – Type and Importance		

c) Service Book – Objectives and Importance

5) Problems of Office Administration **10** **15**

a) Red tape – Meaning and Effects
b) Stress - Causes and Effects
c) Corruption - Causes and Effects

Reference Books

1. E. C. Eyre, Med, ACIS, Office Administration, Rupa Co. New Delhi, 1983.
2. Prof. Sahai, Modern Office Management, Kitab Mahal, Allahabd.
3. Arora S.P., Office Organisation and Management.
4. Pillai & Bagavathi, Office Organization and Management, S.Chand Company, New Delhi.
5. Lokhandwala A.H.,Office Management, Nirali Prakashan, Pune.
6. Saideepti H.Koppolu &B.R.Katturwar Personnel Administration, Harshvardhan Publication, Beed
7. डॉ,बन वशिष्ठ ,कार्यालय प्रशासन, अरुणा प्रकाशन लातूर
8. डॉ. मुक्ता सोमवंशी- डॉ.गंगणे, कार्यालय प्रशासन,चिन्मय प्रकाशन औरंगाबाद
9) डॉ. एम.एफ.राऊतराये,कार्यालय प्रशासन,न्यूमन प्रकाशन,परभणी

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Public Administration

B.A. Third Year Semester - V

Skill Enhancement Course Paper No:-SECPA - III

Disaster Management

(Effective From June 2021)

Course Rational

Disaster Management is very significant to survive in the case of a natural or a man made disaster. and can be defined as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies in particular preparedness response and recovery.

Utility of the course

In the recent years the branch of Disaster Management has attained unique importance. The course will teach the students the utility of the disaster management.

Course Objectives:

1) The Course Introduce and Provides Knowledge of Disaster Management
2) To understand the role of various factors in Disaster Management.

Course Content	Periods	Marks
Unit :- I		
Disaster Management	**10**	**15**
Meaning and Classification of Disaster		
Meaning and Importance Of Disaster Management		
Unit :- II	**10**	**15**
Disaster Management Act 2005		
A Background of Disaster Management Act.		
B Provisions of Disaster Management Act.		
Unit :- III		
Role of Various Factors in Disaster Management	**20**	**20**
A) Collector		
B) Tahsildar		
C) Citizens		

D) Media
E) Local N.G.O.

Reference Books

1. डॉ.बी.एल.फाडीया,लोकप्रशासन,सहित्य भवन पब्लिकेशन आग्रा.
2. डॉ.बिरकेश्वर प्रसादसिंग,लोकप्रशासन,ज्ञानदा प्रकाशन नई दिल्ली
3. डॉ.सुरेंद्र कटारिया,लोकप्रशासन,नँशनल पब्लिकेशन हाऊस, नई दिल्ली
4. श्री रवींद्र कोल्हे, टाईम मँनेजमेन्ट,साकेत प्रकाशन औरंगाबाद
6. डॉ.प्रीती पोहेकर, लोकप्रशासनातील नवप्रवाह,अरुणा प्रकाशन लातूर
7. डॉ. शिंदे प्रकाश व डॉ,शेख मोहमद,आपत्ती व्यवस्थापन व अशासकीय संघटनाचे
. व्यवस्थापन, अरुणा प्रकाशन लातूर
8. डॉ. रेड्डी उर्मिला, लोकप्रशासनातील कौशल्य विकास कार्यक्रम अरुणा प्रकाशन लातूर
9. डॉ.प्रीती पोहेकर,भारताचे आपत्ती व्यवस्थापन व प्रशासन, सेज भाषा प्रकाशन, नवी दिल्ली

Note : It is obligatory to conduct 40 Periods in one semester for Skill Enhancement Course, per week 4 periods.

C.A.: Continuous Assessment : (25 marks)

- Concern teacher should take **one test of 10 marks, Tutorial of 10 marks and seminar for 05 marks .**

E.S.E. :-End Semester Exam : (25 marks)

End semester exam Should be conduct as per university guidelines for 25 marks.

Study Visit to the Administrative offices (Tahsil Office, Municipal Council/ Gram Panchayat office, Police Station, media representatives Office) and write a **Visit Report for 10 Marks, One Test for 10 marks and Presentation /Interview for 5 Marks.**

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS)
SEMESTER PATTERN

B.A. Third Year (Semester :-VI)
Subject :- Public Administration
Under Faculty of Humanities

(For Affiliated Colleges)

(With Effective from Nov. 2021)

Note :
C.A: - Continuous Assessment
ESE :- End of Semester Examination (E.S.E.)
DSE :- Discipline Specific Elective
DGE :- Discipline Generic Elective
SEC :- Skill Enhancement Course

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Public Administration

B.A. Third Year Sem. – VI)

Discipline Specific Elective Paper No:- DSEPA:-II (OR)

Western Administrative Thinkers-XI

(Effective From Nov. 2021)

Course Rational

Public Administration is one of the youngest branches of Faculty of Humanities. With the expansion of the activities of modern state, public administration has assumed great significance in modern society. Western Administrative Thinkers and their contribution is an important part of public administration. The main thing is to impart knowledge of western administrative theories.

Utility of the course

The students will be channelized to learn and understand various theories put forth by Modern administrative thinkers regarding public administration and management. Through the narratives described in the course students will be made acquainted with theories advocated by administrative thinkers like Elton Meyo, Abraham Maslow about Human Relations Theory.

Course Objectives:

1) To provide basic Knowledge of administrative theories.
2) To Understand the western Administrative theory.
3) To Familiarize the students with basic Knowledge of modern administrative thoughts.

Course Content	Periods	Marks
1) Woodrow Wilson	**10**	**15**
A) Relation between Public Administration & Political Science		
B) Concept of Comparative Public Administration		
2) Max Weber	**10**	**15**
A) Theory of Bureaucracy		

B) Types of Authority

3) Herbert Simon		
A) Decision Making Theory	**10**	**15**
C) Communication Theory		
4) F.W. Riggs	**10**	**15**
A) Development Administration		
B) Prismatic Society		
C) SALA Model		
5) Abraham Maslow	**10**	**15**
A) Motivation Theory		
B) Theory of Need Hierarchy		

Reference Books

1) Sum Sun Nisa Ali, Eminent Administrative Thinkers, Associated Publishing House, New Delhi
2) S.R. Maheshwari, Administrative Thinkers, - Mac millan Indian Ltd., Mumbai
3) R.K. Sapru, Administrative theory and Management thought, Prentic Hall of India, New Delhi
4) जी.एस. सुधा.,प्रबंध चिंतन का इतिहास, आर.बी.एस.ए. पब्लिशर्स जयपूर
5) अशोक कुमार दुबे,प्रशासकीय विचारक,टी.एम.एच.पब्लिशर्स,नई दिल्ली
6) डॉ.सुरेंद्र कटारिया, प्रशासनिक चिंतक,नँशनल पब्लिकेशन हाऊस, नई दिल्ली
7) डॉ.नरेंद्र थोरी ,प्रशासनिक विचारक,आर.बी.एस.ए. पब्लिशर्स जयपूर
8) प्रा.के.आर.बंग,प्रशासकीय विचारवंत,विद्या प्रकाशन,औरंगाबाद
9) प्रा.लक्ष्मण कोत्तापल्ले,पाश्चिमात्य व भारतीय प्रशासकीय विचारवंत,निर्मल प्रकाशन नांदेड
10) डॉ.श्याम शिरसाट,डॉ.भगवान बैनाडे व डॉ.जितेंद्र वासनिक, प्रशासकीय विचारवंत,ज्ञानसमिधा पब्लिकेशन,औरंगाबाद
11) डॉ.राम जाधव,डॉ.गोविंद येडले, प्रशासकीय विचारसरणी,सिरीयल पब्लिकेशन नवी दिल्ली
12) डॉ.अर्जुनराव दर्शनकार,प्रशासकीय विचारवंत,कैलास पब्लिकेशन,औरंगाबाद
13) प्रा.जी. एच. बिरादार ,प्रशासकीय विचारवंत,कैलास पब्लिकेशन,औरंगाबाद

14) डॉ.श्याम वाघमारे व डॉ.सुरेश गजभारे,प्रशासकीय विचारवंत,अरुणा प्रकाशन लातूर
15) डॉ.स्मिता मारवाळीकर,प्रशासकीय विचारवंत, संकल्प प्रकाशन, लातूर

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Public Administration

B.A. Third Year Semester – VI

Discipline Generic Elective Paper No:- DGEPA :- II

Indian Constitution & Administration-XII

(Effective From Nov. 2021)

Course Rational

Indian Constitution and Administration is playing impartment role in social and economic development of the Nations .The course will throw light on details of the formation and working of Indian Constitution and Administration. The course covers the part which is commonly added in U.P.S.C.,M.P.S.C. and other competitive exams. This course would focus on the Framework Indian Constitution and Administration

Utility of the course

The Content of the course will enable the students to prepare themselves for various competitive examinations such as U.P.S.C.,M.P.S.C. and other competitive examinations. The students will learn and try to understand the functioning of Indian Administrative System. Due to the course the students will be understand the role of administration in Nation development.

Learning Objectives

After studying the course students will have a capacity to understand :

1)To Understand the formation of Indian Constitution
2)To identify the Role of various Constitutional & Other National Bodies.
3)To introduce the fundamental Rights and Duties of Citizen .

Course Content	Periods	Marks
1) Indian Constitution	**10**	**15**
A) Formation of Indian Constitution B) Preamble C) Salient Features of Indian Constitution		
2). Constitutional Framework	**15**	**15**
A) Fundamental Rights B) Fundamental Duties C) Directive Principles of State Policy		

3). Constitutional & Other National Bodies : Structure & Functions

1) Election Commission of India **15** **15**
2) Union Public Service Commission [U.P.S.C.]
3) Comptroller and Auditor General (C.A.G.)
4) National Human Rights Commission.
5) NITI Aayog

4). Administrative Reforms in Indian Administration **10** **15**

A) Meaning and Objectives

B) First Administrative Reforms Commission

C) Second Administrative Reforms Commissions

5) New Trends in Indian Administration **10** **15**

A) Globalization and Administration

B) Stress Management

C) Impact of Judicial Activism on Administration

Reference Books

1] Mishra B.B., The Central Administration of the East India Company Orford press.Delhi

2] Basu Durgadas, Introduction to the constitution of India, Wadhwa, and Co., Nagpur.

3] Maheshwari Shriram, Indian Administration, Kitab Mahal, New Delhi.

4] Hoshiyar Singh, Indian Administration, Kitab Mahal, New Delhi.

5] Vidya Bhushan & Vishnu Bhagwan, Indian Administration, S.Chand & Com., New Delhi.

6] Ghai K.K., Indian Government and Politics, Kalyani Publishers, Ludhiyana.

7] Gupta Jawaharlal, Union Government and Administration,Dominant Publishers,New Delh

8)Ramchandran Padma (1995), Public Administration in India, National Book Trust of India, New Delhi

9) Arora Ramesh, Indian Administration, Vishwas Prakashan, New Delhi

10)Maheshwari Shriram, Indian Administration, Orient Longman, New Delhi

11) भोळे भा. ल. , भारतीय गणराज्याचे शासन व राजकारण पिंपळापूरे पब्लिकेशन्स नागपूर

12) बंग के आर, भारतीय प्रशासन विद्या प्रकाशन, औरंगाबा

13) डॉ. विळेगावे व्यंकट आणि डॉ. यमालवाड गोविंद, भारतीय प्रशासन, क्रिएटिव्ह पब्लिकेशन्स नांदेड

14) डॉ. सतीश ठोंबरे, भारतीय प्रशसन ,अभिजित प्रकाशन ,लातूर

15) पाटील बी.बी. भारतीय शासन व राजकारण, फडके प्रकाशन कोल्हापूर.

16) डॉ. प्रीती पोहेकर, भारतीय प्रशासन : विकास व व्यवस्था , अरुणा प्रकाशन लातूर

17) डॉ पंचशील एकबेकर & डॉ उलगडे लक्ष्मण, भारतीय लोकशाही आणि कल्याणकारी राज्य, अरूणा प्रकाशन लातूर

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Public Administration

B.A. Third Year Semester – VI

Discipline Specific Elective Paper No:- DSEPA:-II(Or)

Recent Trends in Public Administration-XI(Or)

(Effective from NOV. 2021)

Course Rational

Public Administration is one of the youngest branches of Faculty of Humanities. With the expansion of the activities of modern state, public administration has assumed great significance in modern society. The impact of Information Technology has given to many new trends which have all branches in public administration. Recent trends is an important part of public administration. The main thing is to impart knowledge of recent trends in public administration.

Utility of the course

The era of Information Technology has given to many new trends which have all walks of life and administration of several offices is not an exception. The said course will help the students to understand such changes and get to it.

Course Objectives:

1) To Understand the emerging and recent trends in public administration.
2) To Know the Importance of Information Technology in Public Administration.
3) To introduce and provide knowledge of Right to Information Act.

Course Content	Periods	Marks
1. New Public Administration	**10**	**15**
a) Background of New Public Administration		
b) Elements of New Public Administration		
2.New Public Management	**10**	**15**
a) Meaning of New Public Management		
b) Elements of New Public Management		
c) Principles of New Public Management		
3.Information Technology & Public Administration	**10**	**15**
c) E-Administration - meaning & features		
d) Importance of Information Technology in Public Administration	**10**	**15**
4. Right to Information Act.		
e) Meaning & Importance of Right to information Act		

f) Challenges before Right to information in India

5.Issues in Public Administration 10 15

a. Public – Private Partnership (P.P.P.)
b. Service Guaranty Act.
c. Ethics in Administration

Reference Books

1. Y. Parthasaradhi & Other, E-Governance and Indian Society, Kanishka Publishers, New Delhi.
2. B.M. Chitlangi, Recent Trends in Public Administration, RBSA Publishers, Jaipur
3. Vivek K. Singh, Significant Issues in Public Administration, New Delhi
4. Mohit Bhattacharya, New Horizon of public Administration, Jawahar Publishers New Delhi.
5. Amit Bhaduri& Deepak Nayyar, The Intelligent Person's Guide to Liberalization
4. Subhash C. Kashyap - Crime, Corruption & Good Governance, New Delhi
5. BhabaniSengupta, India : The problem of Governance, Delhi Konark
6. Mohit Bhattacharya, Development Administration : Search for Alternatives, Jawahar Publishers, New Delhi

K. Garg, Electronic Government, Arise Pubshers New Delhi

7. Reddy Urmila. E governance in India, L.A.P.publication Germany 2012
8. Reddy Urmila. Digital India L.A.P. publication Germany 2014
9. Jitendra Wasnik, Public Administration in India, Blue Rose Publishers, New Delhi, 2020
10. अशोक कुमार दुबे,21 वी शताब्दी मे लोकप्रशासन,टी.एम.एच.पब्लिशर्स,नई दिल्ली
11. डॉ.बी.एल.फाडीया,लोकप्रशासन,सहित्य भवन पब्लिकेशन आग्रा.
12. डॉ.बिरकेश्वर प्रसादसिंग,लोकप्रशासन,ज्ञानदा प्रकाशन नई दिल्ली
13. डॉ.सुरेंद्र कटारिया,लोकप्रशासन,नँशनल पब्लिकेशन हाऊस, नई दिल्ली
14. डॉ.पंचशील एकंबेकर,डॉ.तरोडे विजय, डॉ.दिपक वाघमारे,लोकप्रशासनातील नवप्रवाह, ओमसाई प्रकाशन नायगाव
15. डॉ.प्रीती पोहेकर, लोकप्रशासनातील नवप्रवाह,अरुणा प्रकाशन लातूर
16. डॉ.संजय भालेराव,माहितीचा अधिकार:दुसऱ्या स्वातंत्र्याचा जाहीरनामा विद्यापब्लिशर्स,औरंगाबाद
17. डॉ.बी.आर.कतुरवार,लोकप्रशासनातील नवीन विचार प्रवाह ओमसाई प्रकाशन ,देगलूर
18. डॉ. रेड्डी उर्मिला,ई-प्रशासन विद्या बुक पब्लिकेशन औरंगाबाद 2019

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

Public Administration

B.A. Third Year Semester - VI

Skill Enhancement Course

Paper No :- SECPA :- IV

Administration of Non-Government Organizations

(Effective from Nov. 2021)

Credits : 02 **Periods : 45** **Marks : 50**

Course Rational

The development process in a democratic form of government can only succeed when the citizens not only associate themselves with planning development programmes but also participate fully in their implementation. Citizens participation through NGOs make the administration responsive to the needs of the peoples. The focus of the course is on the NGOs , their functions and responsibilities.

Utility of the course

In the country like India, the role of NGO is very significant. The purpose of the course is to make the students to analyze the work of NGOs and to inspire them to undertake such project according to his potential and skills.

Course Objectives:

1) To Provides Knowledge of Non Government Organization and their Administration.
2) To understand the work of N.G.Os in Nation building.
3) The ability of Students to understand the Non Government organization and its works.

Course Content

	Periods	Marks
Unit: - I Non Government Organization		
Meaning, Importance, Process of Formation of NGO Government organization and Non-Government-Organization: Affinity and Difference	**15**	**20**
Unit :- II Administration of N.G.O.	**15**	**15**
Meaning, Definition, Nature and Scope of NGOs administration.		

Unit:- III Principal of management 10 15

Planning, Organization Staffing, Coordination and Control.

Note : It is obligatory to conduct 45 Periods in one semester for Skill Enhancement Course, per week 3 periods.

Note : It is obligatory to conduct 40 Periods in one semester for Skill Enhancement Course, per week 4 periods.

C.A.: Continuous Assessment: (25 marks)

- Concern teacher should take **one test of 10 marks, Tutorial of 10 marks and seminar for 05 marks .**

E.S.E. :-End Semester Exam : (25 marks)

End semester exam Should be conduct as per university guidelines for 25 marks.

Study Visit to the Administrative offices (Local N.G.O. Offices, Tahsil Office, Municipal Council/ Gram Panchayat office) and write a **Visit Report for 10 Marks, One Test for 10 marks and Presentation /Interview for 5 Marks.**

Reference Books

1. Rajshekhr, D. (Ed), Decentralized Government and NGOs: Issues, strategies and ways forward " Concept Publishing company, New Delhi.

2. Dantwala. M.L. and others,"Social change through Voluntary action" Sage Publications. 1998 New Delhi.

3. Sangetha Natarajan (Ed.) "A reference manual on Management and Accounting systems in the Voluntary Sector" (HIVOS)

4. Alan Fowler (Eds.):2003, Michael Edwards and "NGOs Management", Earthsean, New Delhi. 5. Lawani, B.T.1999 ,"NGOs in Development" Rawat Publications.Jaipur and New Delhi.

6. Chandra, Snehalatha:2001,"Non-Governmental Organizations: Structure, relevance and function" Kanishka Publications, New Delhi.

7. Shivani Dharmarajan : 2001,"NGOs as prime movers: Sectorial Action for Social Development" Kanishka Publications, New Delhi.

8. Dr. L.M. Prasad, Principles of Management, Himalaya Publication New Delhi

9.R.K. Sapru, Administrative theory and Management thought, Prentic Hall of India, New Delhi

10 डॉ.बिरकेश्वर प्रसादसिंग,लोकप्रशासन,ज्ञानदा प्रकाशन नई दिल्ली

11 डॉ.सुरेंद्र कटारिया,लोकप्रशासन,नँशनल पब्लिकेशन हाऊस, नई दिल्ली

12 प्रा.रुपाली शेठ व प्रा.नेहा पुराणिक व इतर,व्यवस्थापनाची तत्वे व कार्ये,डायमंड प्रकाशन पुणे.

13 डॉ.प्रभाकर देशमुख,व्यवसाय व्यवस्थापनाची मुलतत्वे,पिंपळापुरे पब्लिकेशन नागपूर

14. डॉ. शिंदे प्रकाश व डॉ, शेख मोहमद हनीफ,आपत्ती व्यवस्थापन व अशासकीय संघटनाचे व्यवस्थापन, अरुणा प्रकाशन लातूर

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

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मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे CBCS Pattern नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१७–१८ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ३ मे २०१७ रोजी संपन्न झालेल्या ३८व्या मा. विद्या परिषद बैठकीतील विषय क्र.१२४/३८–२०१७** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील मानवविज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१७–१८ पासून लागू करण्यात येत आहेत.

१) बी.ए./बी.कॉम./बी.एस्सी.–इंग्रजी (अनिवार्य, द्वितीय भाषा अतिरिक्त, ऐच्छिक)–द्वितीय वर्ष
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३) बी.ए./बी.कॉम./बी.एस्सी.–कन्नड (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
४) बी.ए./बी.कॉम./बी.एस्सी.–मराठी (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
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६) बी.ए./बी.कॉम./बी.एस्सी.–संस्कृत (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
७) बी.ए./बी.कॉम./बी.एस्सी./बी.एफ.ए./बी.एस.डब्ल्यू–उर्दू (द्वितीय भाषा, ऐच्छिक)–द्वितीय वर्ष
८) बी.ए.–फॅशन डिझाईन–द्वितीय वर्ष
९) बी.ए.–अर्थशास्त्र–द्वितीय वर्ष
१०) बी.ए.–भूगोल–द्वितीय वर्ष
११) बी.ए.–इतिहास–द्वितीय वर्ष
१२) बी.ए.–मानव हक्क–द्वितीय वर्ष
१३) बी.ए.–ग्रंथालय व माहितीशास्त्र–द्वितीय वर्ष
१४) बी.ए.–जनसंवाद व पत्रकारिता–द्वितीय वर्ष
१५) बी.ए.–सैनिकशास्त्र–द्वितीय वर्ष
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१७) बी.ए.–राज्यशास्त्र–द्वितीय वर्ष
१८) बी.ए.–मानसशास्त्र–द्वितीय वर्ष
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सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
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जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/८४
दिनांक : ०७.०६.२०१७.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणि (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS

Public Administration

B.A. Second Year

Choice Based Credit System (CBCS) Semester Pattern

(With Effective From 2017-18)

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure

Faculty of Social Sciences

Subject : Public Administration

B.A. Second Year Syllabus

Semester Pattern Effective from 2017-2018

Semester	Core course	Paper No.	Name of Paper	Lectures Per Week	Total No. of Lectures	CA	ESE	Total Marks	Credits
III	CCPA-A	V	Personnel Administration	4	55	35	40	75	3
	CCPA-B	VI	State Government & Administration	4	55	35	40	75	3
	SEC	I	Rural Development and Empowerment Programmes	3	45	25	25	50	2
		Total		**11**	**155**	**95**	**105**	**200**	**8**
IV	CCPA-A	VII	Office Administration	4	55	35	40	75	3
	CCPA-B	VIII	District Administration	4	55	35	40	75	3
	SEC	II	Application of E-Governance and E-Devices in Administration	3	45	25	25	50	2
		Total		**11**	**155**	**95**	**105**	**200**	**8**
			Total	**22**	**310**	**190**	**210**	**400**	**16**

Note:

1. CCPA : Core Course of Public Administration
2. SEC : Skill Enhancement Course
3. CA : Continuous Assessment
4. ESE : End of Semester Examinations

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

CBCS – Paper Pattern in the Subject of Public Administration

B.A. Second Year

(Effective from 2017-18)

SEMESTER – III

Paper No.	**Title of the Paper**	**Internal Mark (CA)**	**End Semester Exam (ESE)**	**Total (CA+ESE)**
V	Personnel Administration	35	40	75
VI	State Government & Administration	35	40	75
SEC-I	Rural Development and Empowerment Programme	25	25	50

SEMESTER – IV

Paper No.	**Title of the Paper**	**Internal Mark (CA)**	**End Semester Exam (ESE)**	**Total (CA+ESE)**
V	Office Administration	35	40	75
VI	District Administration	35	40	75
SEC-II	Application of E-Governance and E-Devices in Administration	25	25	50

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Public Administration
B.A. Second Year
Semester – III
Paper – V
Personnel Administration
(Effective from June – 2017)

Credits : 03	Periods : 55	Marks : 75

Course Introduction:

Personnel administration is an important part of Public administration. Personnel administration is the art and science of planning, organizing, directing, controlling and motivating human resources. The main thing is to give knowledge of personnel system in Indian administration, specially how to process of Recruitment, Training, Promotion and Retirement of the Government Sector Employees; and understands all new issue in personnel administration.

Course Objectives:

1. To familiarize the students with basic process of Civil Service Recruitment in Indian Personnel Administration.
2. To understand how to Train Civil Servants for their Better Role in Indian Governance and Administration.
3. To know the Systematic process in Personnel Administration (Recruitment to Retirement of the Personnel).

Course Content:	**Periods**	**Marks**
Unit-1 Personnel Administration – Meaning, Importance, Scope	**10**	**15**
Unit -2 Recruitment – Meaning, Direct & Indirect Recruitment	**10**	**15**
Unit-3 Training – Meaning, Objectives & Types	**15**	**15**
Unit- 4 Promotion – Meaning, Principles of Promotion (Merit & Seniority)	**10**	**15**
Unit -5 Retirement – Meaning, Need of Retirement Benefits of Retirement (Pension, Gratuity, Provident funds, NCPS)	**10**	**15**

Suggested Reading

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3. Rajesh K. Jha, Public Personnel Administration, Pearson Publication, New Delhi, 2012.
4. Edwin B. Flippo, Personnel Management, Singapur, 1984
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6. Gosh, Personnel administration, Sudha Publication, New Delhi,1975.
7. Gupta C.B., Human Resources Management, Sultan Chand & Sons publication, New Delhi, 2001.
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15. सिंह राघवेंद्र, कार्मिक प्रबंध, बिहार हिंदी ग्रंथ अकादमी, पटना, १९७३
16. जैन सी.एम., हरिशचंद्र शर्मा, सेवीवर्गीय प्रशासन, रिसर्च पब्लिकेशन इन सोशल सायन्सेस, नवी दिल्ली, १९७८
17. चव्हाण पी. जी., मामीडवार एस.एस., कर्मचारी व वित्तीय प्रशासन, कैलास पब्लिकेशन्स, औरंगाबाद, १९८८
18. बंग के. आर., कर्मचारीवर्ग प्रशासन, विद्या बुक्स, पब्लिशर्स, औरंगाबाद, २०१०.
19. भिंगे सुभाष, कर्मचारी प्रकाशन, अरुणा प्रकाशन, लातूर, २००९
20. ठोंबरे सतिष, शेख एम. आय., कर्मचारी प्रशासन, अभिजित प्रकाशन लातूर, २००९
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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. Second Year

Semester – III

Paper – VI

State Government and Administration

(With Special Reference to Maharashtra)

(Effective from June – 2017)

Credits : 03	Periods : 55	Marks : 75

Course Introduction:

India is a Democratic Republic with a Parliamentary form of government which is federal in structure with unitary features. There is a Council of Ministers with the Prime Minister as its head to advice the President who is the constitutional head of the country. Similarly in states there is a Council of Ministers with Chief Minister as its head, who advices the Governor. In this paper focus is on the Structure of State Government and Administration with special reference to Maharashtra. The course is designed to provide knowledge to the students about formation of state in India, State Legislature, State executive and State judiciary.

Course Objectives:

1. The Course introduces and provides knowledge of State Government and Administration.
2. To understand process of State Judiciary.
3. To know perceive Constitutional and Statutory Agencies.

Course Content:	**Periods**	**Marks**
Unit-1 Formation and reorganization of Maharashtra State.	**10**	**15**
Unit-2 State Legislature.	**15**	**15**
a) Governor – Powers, Functions & Role.		
b) Legislative Assembly (Vidhan Sabha) – Composition and Functions.		
c) Legislative Council (Vidhan Parishad) – Composition and Functions.		
Unit-3 State Executive	**10**	**15**
A) Chief Minister		
B) Council of Ministers		
C) State Secretariat		
Unit-4 State Judiciary	**10**	**15**
High Court – Composition & Powers		
Unit-5 Constitutional and Statutory Agencies	**10**	**15**
a) Maharashtra Public Service Commission		
b) State Election Commission		
c) State Women Commission		

Suggested Reading

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2. Kharkar & Velankar, Government of Maharashtra.
3. Maheshwari S.R., State Government in India, Mecmillan, New Delhi, 1982.
4. Government of India, Administrative Reforms Commission-II, 15th Report on State Administration, New Delhi, 2009.
5. Khandelwal R.M., State level Plan Administration in India, RBSA Publishers, Jaipur, 1985.
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10. आरोडा रमेश, चर्तुवेदी गिता, भारत में राज्य प्रशासन, आरबीएसए पब्लिशर्स, जयपूर, २००७
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12. व्यंकट विळेगावे, महाराष्ट्र राज्य व जिल्हा प्रशासन, अरुणा प्रकाशन, लातूर, २००९
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17. कुडकेर एन. पी., एकंबेकर पंचशील, महाराष्ट्र आणि जिल्हा प्रशासन व्यवस्था, अरुणा प्रकाशन, लातूर, २०१७

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. Second Year

Semester – III

Skill Enhancement Course – I

Rural Development and Empowerment Programmes

(Effective from June – 2017)

Credits : 02	Periods : 45	Marks : 50

Course Introduction:

Rural development programmes are designed to facilitate a multi-faceted growth of the rural poor people by extending the benefits of development to them. The main aim of rural development programmes is to improve the living standards of the people and providing them opportunities. In the present era, various rural development programmes have been newly defined by Prime Minister. This course designed to create awareness of rural development in the students.

Course Objectives:

1. To understand Rural Development and Empowerment.
2. To study various Rural Development Programmes.
3. To understand various issues in rural development programmes.

Course Content:	**Periods**	**Marks**
Unit-1 Meaning & Importance of Rural Development	**15**	**20**
1. Rural Development		
2. Women Empowerment of rural area		
3. Rural Employment		
Unit-2 Rural Development Programme	**15**	**20**
1. Clean India Mission (Swachh Bharat Abhiyan)		
2. MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act-2014)		
3. Pradhan Mantri Awas Yojana		
4. Jalyoukt Shivar		
Unit-3 Issue in Rural Development & Empowerment	**15**	**10**
1. Transparency and Accountability		
2. Rural Migration		
3. Lack of Effective Implication		

Note : It is obligatory to conduct 45 Periods in one semester for Skill Enhancement Course, per week 3 periods, one for theory and 2 for practical's.

Internal Practical : (25 marks)

- Write a Assignment on Concept of Rural Development. 10 mark
- Concern teacher should take a test of total 05 mark
- Create two survey form (or) write short survey report on Rural Development Programme . 10 marks

External Practical Exam : (25 marks)

External practical exam is conducted by University at the end Semester. 25marks.

Suggested Reading

1. Desai Vasant, Fundamental of Rural Development : A systems Approach, Himalaya Publication, Bombay, 1991.
2. Hoja Rakesh, Administrative Interventions in Rural Development, Rawat Publication Jaipur, 1987.
3. Sharma S.K. & Malhotra S.L., Integrated Rural Development, Abhinav Prakashan, New Delhi, 1977.
4. Prasad B.K., Rural Development: Concept, Approach and stategy, Sarup & Sons, New Delhi, 2003
5. Rau S.K., Global Search Rural Development, NIRD, Hyderabad, 2001.
6. Maheshwari S.R., Rural Development in India, Sage Publication, New Delhi, 1985.
7. Singh Manohar, Rural Development Administration and Anti-Poverty Programmes, Deep & Deep Publication, New Delhi, 1988
8. Swachh Bharat Abhiyan- www.swachhbharatabhiyan.in , www.swachhbharat.mygov.in
9. Pradhan Mantri Awas Yojana – www.pmaymis.gov.in , www.pradhanmantriawasyojana.in , www.mhupa.gov.in
10. Jalyoukt Shivar – www.mrsac.maharashtra.gov.in , www.quora.com, www.jalyouktshivar.com
11. शर्मा श्रीनाथ, मनोजकुमार, पंचायतीराज एवं ग्रामिन विकास, अर्जुन पब्लिकेशन्स हाऊस, नई दिल्ली. २००४
12. फाडिया बी. एल., भारत में लोकप्रशासन, साहित्य भवन पब्लिकेशन्स, अग्रा, २००९
13. यादव रामजी, भारत में ग्रामिण विकास, अर्जुन पब्लिकेशन्स्, नई दिल्ली, २००८.
14. कराळे, कविमंडन, ग्रामिण विकासाचा एकात्मिक दृष्टिकोन, मंगेश प्रकाशन नागपूर, २००६
15. कत्तुरवार बी. आर., ग्रामिण विकास प्रशासन, ओमसाई प्रकाशन, देगलूर, २०१७

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. Second Year

Semester – IV

Paper – VII

Office Administration

(Effective from June – 2017)

Credits : 03	Periods : 55	Marks : 75

Course Introduction:

Everyone knows what is meant by an 'Office' but very few are able to define it. Office Administration is a part of general management. The main aim of the paper Office Administration is to introduce the process of the work method. What is role of head of the office in office administration? How to keep safely and smoothly maintain office records & environment.

Course Objectives:

1. To understand the meaning of Office Administration.
2. To introduce the Office Procedure and Method.
3. To identify various problems in Office Administration.

Course Content:	**Periods**	**Marks**
Unit-1 Office Administration - Meaning, Importance & Functions	**15**	**15**
Unit-2 Office Environment	**10**	**15**
a) Office Lighting – Meaning and Importance b) Noise Control - Meaning and Importance c) Sanitation - Meaning and Importance		
Unit-3 Office Procedure and Method	**10**	**15**
a) Head of Institute – Qualities and Function b) Establishment - Function c) Filing – Meaning and Method		
Unit-4 Working of Office Administration	**10**	**15**
a) Manuals – Meaning and Type b) Reporting – Type and Importance c) Service Book – Objectives and Importance		
Unit-5 Problems of Office Administration	**10**	**15**
a) Red tape – Meaning and Effects b) Stress - Causes and Effects c) Corruption - Causes and Effects		

Suggested Reading

1. E. C. Eyre, Med, ACIS, Office Administration, Rupa Co. New Delhi, 1983.
2. Prof. Sahai, Modern Office Management, Kitab Mahal, Allahabd.
3. Arora S.P., Office Organisation and Management.
4. Pillai & Bagavathi, Office Organization and Management, S.Chand Company, New Delhi.
5. Lokhandwala A.H., & Behere V.K, Office Management, Nirali Prakashan, Pune.
6. जोशी प्रतिभा, कार्यालय व्यवस्थापन, सुविचार प्रकाशन, पुणे.
7. लांजेकर जगदिश, जॉन्सन बोर्जेस, कार्यालयीन संघटन व कौशल्य, डायमंड पब्लिकेशन्स, पुणे.
8. जोशी वि. अ., कार्यालय व्यवस्थापन, नरेंद्र प्रकाशन, पुणे.
9. लोहार व कोठारी, कार्यालय व्यवस्थापन, प्रशांत प्रकाशन, जळगाव.
10. बन वशिष्ट, कार्यालय प्रशासन, अरुणा प्रकाशन, लातूर, २०१४

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. Second Year

Semester – IV

Paper – VIII

District Administration

(Effective from June – 2017)

Credits : 03	Periods : 55	Marks : 75

Course Introduction:

The Present system of district administration owes its origin to the time of the Mauryan Empire. But modern structure of district administration in India developed in Colonial Period (1772). At that time was district administration established for collection of revenue. In the present era, district is the basic territorial unit of administration in India. District administration is the total functioning of Government in a district. In this paper stress is on providing knowledge of district administration for the Students.

Course Objectives:

1. To know what is District Administration means.
2. To understand Structure and function of various departments of District Administration.
3. To provide knowledge of the revenue system, Judiciary system and Police administration at district level.

Course Content:	**Periods**	**Marks**
Unit-1 District Administration - Meaning & Elements of District Administration	**10**	**15**
Unit-2 Law and Order - Principles and Agencies	**10**	**15**
Unit-3 District Revenue Administration a) District Collector b) Sub Divisional Officer c) Tahasildar d) Talathi	**15**	**15**
Unit-4 District Judiciary a. District and Session Court b. Loknyayalaya	**10**	**15**
Unit-5 District Police Administration a. District Superintendent of Police b. Police Inspector c. Police Patil	**10**	**15**

Suggested Reading

1. Khera S.S., District Administration, National, New Delhi, 1977
2. Jain R. B., District Administration, Indian Institute of Public Administration, 1980
3. Dayal Ishwar, Mathur Kuldeep & Battacharya M., District Administration, McMillan, New Delhi, 1976
4. Misra S.C. Police Administration in India, National Police Academy, Mount Abu, 1972
5. Shrama P.D., Indian Police : A Development Approach, Delhi, 1971.
6. Shukla J.D., State and District Administration in India, IIPA,New Delhi
7. Sapru, R.K., Indian Administration, Kalyani Publishers, New Delhi, 2001.
8. Maheshwari S.R., State Government in India, Mcmillan, New Delhi, 1982.
9. Government of India, Administrative Reforms Commission-II, 15th Report on State Administration, New Delhi, 2009.
10. Khandelwal R.M., State level Plan Administration in India, RBSA Publishers, Jaipur, 1985.
11. Arora R.K., Goyal Rajani, Indian Public administration, Wishwa Prakshan, New Delhi, 2009.
12. Padhi A.P., State Administration in India, Uppal Publication, New Delhi, 1998.
13. कटारिया सुरेंद्र, राज्य प्रशासन, मलिक एण्ड कंपनी, नई दिल्ली, २००७
14. आरोडा रमेश, चर्तुवेदी गिता, भारत में राज्य प्रशासन, आरबीएसए पब्लिशर्स, जयपूर, २००७
15. ठोंबरे सतिष, महाराष्ट्र व जिल्हा प्रशासन, अरुणा प्रकाशन, लातूर, २००२
16. व्यंकट विळेगावे, महाराष्ट्र राज्य व जिल्हा प्रशासन, अरुणा प्रकाशन, लातूर, २००९
17. पोहेकर, भूतडा, खरटमोल, महाराष्ट्र प्रशासनाची रुपरेषा, अरुणा प्रकाशन, लातूर, २०११.
18. इंगळे उत्तम, महाराष्ट्रातील पोलिस जनता संबंध, प्रतिभास प्रकाशन, परभणी, २०१०
19. कुडकेर एन. पी., एकंबेकर पंचशील, महाराष्ट्र आणि जिल्हा प्रशासन व्यवस्था, अरुणा प्रकाशन, लातूर, २०१७

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. Second Year

Semester – IV

Skill Enhancement Course – II

Application of E-Governance and E-Devices in Administration

(Effective from June – 2017)

Credits : 02	Periods : 45	Marks : 50

Course Introduction:

The E-Governance is basically associated with carrying out the functions and achieving the result of governance through the utilization of ICT (Information and Communications Technology). World Bank explained the "E-Governance as the use by Government agencies of information technology that have the ability to transform relations with citizens." In India, main trust for E-governance was provided by the launching of NICNET in 1987 by the national satellite based computer network. It is established that E-Governance is the application of information and Communication technology to transform the efficiency, effectiveness, transparency and accountability in the government. The course mainly aims at creating new skill in students for Application of E-Governance and Digital Devices in administrative service delivery.

Course Objectives:

1. To familiarize the students with concept of E-Governance and digital technology in service delivery.
2. To understand how to use of E-Governance in various administrative departments.
3. To know the application of E-Governance and various issues.

Course Content:	**Periods**	**Marks**
Unit-I E-Governance	**15**	**20**
1. E-Governance – Meaning and Importance		
2. Digital Service Delivery Devices		
3. Use of E-devices in Higher Education		
Unit-II Application of E-Governance	**15**	**20**
1. E-Seva		
2. E-Panchayat		
3. E-Scholarship		
4. Social Networking Apps		
Unit-III Various Issues in E-Governance	**15**	**10**
1. Lack of E-Literacy		
2. People Participation		
3. IT Security		

Note : It is obligatory to conduct 45 Periods in one semester for Skill Enhancement Course, per week 3 periods, one for theory and 2 for practical's.

Internal Practical : (25 marks)

- Write an Assignment on Concept of E-Governance and E-Digital Devices. 10 mark
- Concern teacher should take a test of total 05 marks on above syllabus.
- Visit local Common Service Center (Setu Suvidha) and write a short report on how to use E-Governance. 10 marks

External Practical Exam : (25 marks)

External practical exam is conducted by University at the end Semester. 25marks.

Suggested Reading

1. Bhatnagar Subhash, E-Governance from Vision to Implimtaion, Sage Publication, New Delhi, 2004.
2. Government of India National E-Governance Plan, www.Indian.gov.in
3. Gupta D.N., E-Governance: A Comprehensive Framework, New Century Publication, Verlag, 2008.
4. Pardhasardhi Y., E-Governance and Indian Society. Kanishka Prakashan, New Delhi,2009.
5. Sinha R.P., E-Governance in India: Initiatives and Issues, Concept Publication, New Delhi, 2006.
6. भूताळे, वडवळे, लोकप्रशासन परिचय व मूलतत्वे, क्रिएटिव्ह प्रकाशन, नांदेड, २०१५

* * * * *

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

ACADEMIC (1-BOARD OF STUDIES) SECTION

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संलग्नित महाविद्यालयातील सी.बी.सी.एस. पॅटर्नचा बी.ए. लोकप्रशासन (प्रथम वर्ष) अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक १२ मे २०१६ रोजी संपन्न झालेल्या ३६व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.१०/३६–२०१६** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील सामाजिक शास्त्रे विद्याशाखेतील** खालील विषयाचा **सी.बी.सी.एस. पॅटर्नचा** अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्यात येत आहे.

१. बी.ए. लोकप्रशासन (प्रथम वर्ष))

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक(१)/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/**१०१२**
दिनांक : २५.०८.२०१६.

स्वाक्षरित/–
संचालक
महाविद्यालय व विद्यापीठ विकास मंडळ

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. परीक्षा नियंत्रक यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

SYLLABUS

PUBLIC ADMINISTRATION

Semester Pattern

(Choice Base Credit System)

B.A. FIRST YEAR

(With Effective from 2016-17)

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS)

SEMESTER PATTERN

B.A. (UG) Programme Under Faculty of Social Sciences

(Affiliated Colleges)

(With Effect from Academic Year 2016-17)

Name of the Faculty : **Social Sciences**

Total Credit : **158** Average Credits Per Semester : **26**

Note :

- Assesment Shall Consist of Continuous Assessment (CA) and End of Semester Examination (ESE)
- Weightage : % for ESE & % for CA
- Each Paper is of 3 Credits
- **Paper – (Elective) Transfer of Credit as per Student choice.**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New scheme)

Faculty of Social Sciences

B.A. First Year Syllabus

Semester Pattern Effective from 2016-17

Subject : **Public Administration**

Semester	Core Course	Paper No.	Name of paper	Lectures/ Week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester – I	CCPA-I	I	Principles of Pub. Admn.	4	55	35	40	75	3
	CCPA-II	II	Evolution of Indian Admn. & Constitution	4	55	35	40	75	3
			Total – I	**8**	**110**	**70**	**80**	**150**	**6**
Semester – II	CCPA-I	III	Administrative organization	4	55	35	40	75	3
	CCPA-II	IV	Indian Administration	4	55	35	40	75	3
				8	**110**	**70**	**80**	**150**	**6**
			Total I – II	**16**	**220**	**140**	**160**	**300**	**12**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New Scheme)

Faculty Of Social Sciences

B.A. Second Year Syllabus

Semester Pattern Effective from 2017-18

Subject : Public Administration

Semester	Core Course	Paper No.	Name of paper	Lectures/ Week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester. III	CCPA-I	V	Personnel Admn.	4	55	35	40	75	3
	CCPA-II	VI	State Govt. & Admn.	4	55	35	40	75	3
	SEC - I			3	45	25	25	50	2
		Total		**11**	**155**	**95**	**105**	**200**	**8**
Semester. IV	CCPA-I	VII	Office Admn.	4	55	35	40	75	3
	CCPA-II	VIII	Dist. Admn.	4	55	35	40	75	3
	SEC-II			3	45	25	25	50	2
				11	155	95	105	200	8
		Total		**22**	**310**	**190**	**210**	**400**	**16**

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure (New Scheme)

Faculty Of Social Sciences

B.A. Third Year Syllabus

Semester Pattern Effective from 2018-19

Subject : Public Administration

Semester		Paper No.	Name of Paper	Lectures/ Week	Total No. of Lectures	CA	ESE	Total Marks	Credits
Semester-V	CCPA-A	IX	Administrative Thinkers	4	55	35	40	75	3
	CCPA-B	X	Rural Local Govt. in Maha	4	55	35	40	75	3
	CCPA-C	XI	Financial Admn.	4	55	35	40	75	3
	OR	XI	Recent Trends in P.A	-	-	-	-	-	-
	SEC-III			3	45	25	25	50	2
			TOTAL	15	210	130	145	275	11
Semester-VI	CCPA-A	XII	Administrative Theory	4	55	35	40	75	3
	CCPA-B	XIII	Urban Local Govt.in Maha.	4	55	35	40	75	3
	CCPA-C	XIV	Major Trends & issues in Pub. Admin.	4	55	35	40	75	3
	OR	XIV	Fin. Admn & Public Policy	-	-	-	-	-	-
	SEC-III			3	45	25	25	50	2
			Total	15	210	130	145	275	11
			Total (V-VI)	30	420	260	290	550	22

Structure B.A. Programme under CBCS Pattern

(Social Sciences, Arts & Humanities Faculty)

Semester	**Core Course (12)**	**Ability Enhancement Compulsory Courses (AEC) (8)**	**Skill Enhance-ment Course (SEC) (4)**	**Discipline Specific Elective DSE (6)**	**Generic Elective (6)**
	CC-A I-6	1. English – 3			
I	CC-B I-6	Communication			
Credits : 24	CC-C I-6	2. SL – 3			
II	CC-A II-6	1. English – 3			
Credits : 24	CC – B II-6	Communication			
	CC-C II-6	2. SL-3			
III	CC-A III-6	2. English – 3	SEC-I - 2		
Credits : 26	CC-B III-6	Communication			
	CC-C III-6	3. SL – 3			
IV	CC-A IV-6	2. English – 3	SEC-II - 2		
Credits : 26	CC-B IV-6	Communication			
	CC-C IV-6	3. SL- 3			
V				DSE-AI-6	GE-A I -3
Credits : 29			SEC-III-2	DSE-B I -6	BE-B I-3
				DSE- C I-6	GE-C I -3
VI				DSE-A II-6	GE-A II-3
Credits : 29			SEC-IV -2	DSE- B II-6	GE- B II -3
				DSE-C II-6	GE-C II-3
Total Credits : 158	**No. Credits : 72**	**No. Credits : 24**	**No. Credits 8**	**No. Credits : 36**	**No. Credits : 18**

Structure of B.A. Programme under CBCS Pattern

(Social Sciences and Arts & Humanities Faculty)

Semester	Course Opted	Course Name	Credits
I	Ability enhancement compulsory course-I	1. English Communication 2. SL	03 03
	Core Course A-I	Paper A & B	06
	Core Course B-I	Paper A & B	06
	Core Course C-I	Paper A & B	06
	Total Sem I		**24**
II	Ability enhancement compulsory course-II	1. English Communication 2. SL	03 03
	Core Course A-II	Paper A & B	06
	Core Course B-II	Paper A & B	06
	Core Course C-II	Paper A & B	06
	Total Sem I		**24**
	Total Sem I & II		**48**
Semester	**Course Opted**	**Course Name**	**Credits**
III	Ability enhancement compulsory course-III	1. English Communication 2. SL	03 03
	Core Course A-III	Paper A & B	06
	Core Course B-III	Paper A & B	06
	Core Course C-III	Paper A & B	06
	Skill enhancement course I	SEC – I	02
IV	**Total Sem-III**		**26**
	Ability enhancement compulsory course-IV	1. English Communication 2. SL	03 03
	Core Course A-IV	Paper A & B	06
	Core Course B-IV	Paper A & B	06
	Core Course C-IV	Paper A & B	06
	Skill enhancement course II	SEC – I	02
	Total Sem – IV		**26**
	Total (Sem III & IV)		**52**
Semester	**Course Opted**	**Course Name**	**Credits**
V	Discipline Specific Elective A-I	DSE A – I	06
	Discipline Specific Elective B-I	DSE B – I	06
	Discipline Specific Elective C-I	DSE C – I	06
	Generic Elective GE- A I	GE – A I	03
	Generic Elective GE- B I	GE – B I	03
	Generic Elective GE- C I	GE – C I	03
	Skill enhancement course III	SEC – III	02
	Total Sem V		**29**
VI	Discipline Specific Elective A-II	DSE A – II	06
	Discipline Specific Elective B-II	DSE B – II	06
	Discipline Specific Elective C-II	DSE C – II	06
	Generic Elective GE- A II	GE – A II	03
	Generic Elective GE- B II	GE – B II	03
	Generic Elective GE- C II	GE – C II	03
	Skill enhancement course IV	SEC – IV	02
	Total Sem. VI		**29**
	Total (Sem. V & VI)		**58**
	Total Course Credit		**158**

SWAMI RAMANAND TEERTH

MARATHWADA UNIVERSITY, NANDED

CBCS – *Paper Pattern in the Subject of*

PUBLIC ADMINISTRATION

B.A. First Year

(Effective from 2016-17)

SEMESTER – I

Paper No.	Title of the Paper	Internal Marks	External Marks
I	Principles of Pub. Admn.	35	40
II	Evolution of Indian Admn. & Constitution	35	40

SEMESTER – II

Paper No.	Title of the Paper	Internal Marks	External Marks
III	Administrative Organization	35	40
IV	Indian Admn.	35	40

1) Internal Marks 35 Marks

2) External Marks 40 Marks

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. First Year

Semester – I

Principles of Public Administration

Paper – I

(Effective from June – 2016)

Credits : 03	Periods : 55	Marks : 75

Course Rationale:

Administration is as old as mankind. It has acquired all spheres of human life right from birth to death. It is very close to the daily life of any person in practical. Public Administration is one of the major branches of administration as a whole. Public Administration Studies the systematic implementation of Laws and policies, theories principles and its controlling system. The subject stands as an integral element of democratic system of the nation.

It is intended that the subject is introduced, as a general subject to the students of U.G. level. The subject is introduced to comprehend the importance of Administration theory and practice. as well as Public Administration and private Administration system, departments, public corporation.

Course Content :		**Periods**	**Marks**
1]	**Public Administration :- Meaning, Nature, Scope and Importance.**	**25**	**30**
2]	**Public Administration and Private Administration – Affinity and Difference.**	**10**	**15**
3]	**Public Relations – Meaning, Importance and Agencies.**	**07**	**15**
4]	**Organization : -**	**13**	**15**

a] Meaning and Importance.

b] Forms of Organization – formal & Informal.

c] Bases of Organization [4 ps.]

Recommended Books :-

1) Awasthi & Maheshwari, Public Administration, Laxminarain Agrawal, Agra.

2) A.R. Tyagi, Public Administration, Atma Ram & Sons, New Delhi.

3) Bhambri C.P., Public Administration in India, Vikas, New Delhi.

4) डॉ. शर्मा हरिशचंद्र, लोकप्रशासन, कॉलेज बुक डेपो, जयपूर.

5) डॉ. कटारिया सुरेंद्र, प्रशासनिक सिध्दांत एवं प्रबन्ध, नॅशनल पब्लिशिंग हाऊस, जयपूर.

6) डॉ. फाडीया बी.एल., लोकप्रशासन, साहित्य भवन पब्लिकेशन, आग्रा.

7) पाटील बी.बी., लोकप्रशासन, फडके प्रकाशन कोल्हापूर.

8) भोगले शांताराम, लोकप्रशासन सिध्दांत व कार्यपध्दती, कैलाश पब्लिकेशन्स, औरंगाबाद.

9) पोहेकर प्रीती, लोकप्रशासनाची मूलतत्वे, अरूणा प्रकाशन, लातूर.

10) बोरा पारस व शिरसाठ शाम, लोकप्रशासन शास्त्र, ज्ञान समिघा पब्लिशिंग वर्ल्ड, औरंगाबाद.

11) भुताळे व वडवळे, लोकप्रशासन, सहयाद्री प्रकाशन, नांदेड

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. First Year

Semester – II

Administrative Organizations

Paper – III

(Effective from Nov – 2016)

Credits : 03	Periods : 55	Marks : 75

Course Content:		**Periods**	**Marks**
1]	**Principles of Administrative Organization :**	**20**	**30**
	a] Hierarchy – Meaning, merits and demerits.		
	b] Span of Control – Meaning, Dependant factors.		
	c] Unity of Command – Meaning, merits & demerits.		
	d] Delegation – Meaning, Types and Importance.		
2]	**Line and Staff Agencies : Meaning, Types and Functions.**	**10**	**15**
3]	**Chief Executive : Types, Functions & Qualities of Chief Executive.**	**10**	**15**
4]	**Types of Administrative Organization..**	**15**	**15**
	a] Department – Meaning and Types.		
	b] Public Corporation – Meaning and Characteristics.		

Recommended Books :-

1) Awasthi & Maheshwari, Public Administration, Laxminarain Agrawal, Agra.

2) A.R. Tyagi, Public Administration, Atma Ram & Sons, New Delhi.

3) Bhambri C.P., Public Administration in India, Vikas New Delhi.

4) डॉ. शर्मा हरिशचंद्र, लोकप्रशासन, कॉलेज बुक डेपो, जयपूर.

5) डॉ. कटारिया सुरेंद्र, प्रशासनिक सिध्दांत एवं प्रबन्ध, नॅशनल पब्लिशिंग हाऊस, जयपूर.

6) डॉ. फाडीया बी.एल., लोकप्रशासन, साहित्य भवन पब्लिकेशन, आग्रा.

7) पाटील बी.बी., लोकप्रशासन, फडके प्रकाशन कोल्हापुर.

8) भोगले शांताराम, लोकप्रशासन सिध्दांत व कार्यपध्दती, कैलाश पब्लिकेशन्स, औरंगाबाद.

9) पोहेकर प्रीती, लोकप्रशासनाची मूलतत्वे, अरूणा प्रकाशन, लातूर.

10) बोरा पारस व शिरसाठ शाम, लोकप्रशासन शास्त्र, ज्ञान समिघा पब्लिशिंग वर्ल्ड, औरंगाबाद.

11) भुताळे व वडवळे, लोकप्रशासन, सहयाद्री प्रकाशन, नांदेड

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. First Year

Semester – I

´Evolution of Indian Administration and Constitution

Paper – II

(Effective from June – 2016)

Credits : 03	Periods : 55	Marks : 75

Course Rationale:

India is the largest democratic administrative Nation. The subject Pub. Admn. Promotes students to understand Indian Administrative system. Besides, inspiring the students for Indian Administrative service as well as a special point of view. It also introduces with the various commissions and committees in our country. The subject concerns with the democratic values of improving equality, Justice, Security and sustains human rights of a democratic personnel. In addition, the subject is primarily concerned with expanding market share, generating revenue and earning profit. It concerns with different on concepts. Its accountability, governance, decentralization etc. The subject proves as a creator of good leader as well as good administrator.

The subject goals to inform Indian constitution & administration as well as ancient, medieval and modern administrative system. The subject makes students to aware of the fundamental rights and duties of Indian citizens bestowed by the Indian Constitution. It informs U.G. level students about Indian Parliament and its Administrative System, President, P.M. Council of Ministers, Supreme Court etc.

Course Content:		**Periods**	**Marks**
1]	**Ancient Administration [With special Reference to Kautilya]**	**15**	**15**
	a] Saptang Theory b] Mantri Parishad : Structure and Functions.		
2]	**Mughal and British Administration**	**10**	**15**
	a] Central Administration in Mughal Period. b] The Government of India Act, 1935 – Important Provisions.		
3]	**Post Independence [Constitutional Set – up] Administration.**	**10**	**15**
	a] Formation of Indian Constitution. b] Salient Features of Indian Administration.		
4]	**Constitutional Framework.**	**20**	**30**
	a] Fundamental Rights. b] Fundamental Duties. c] Directive Principles of State Policy.		

Recommended Books:

1) Basu Durgadas, Introduction to the constitution of India, Wadhwa and Co., Nagpur.
2) Maheshwari Shriram, Indian Administration, Kitab Mahal, New Delhi.
3) Vidya Bhushan & Vishnu Bhagwan, Indian Administration, S. Chand & Com., New Delhi.
4) भोळे भा.ल., भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापूरे प्रकाशन, नागपूर
5) पाटील बी.बी., भारतीय शासन व राजकारण, फडके प्रकाशन, कोल्हापूर.
6) विळेगावे व यमलवाड, भारतीय प्रशासन, क्रिएटिव्ह पब्लिकेशन, नांदेड
7) ठोंबरे सतिश, भारतीय प्रशासन, अभिजित पब्लिकेशन, लातूर.
8) एम. कुमार, शर्मा दीप्ती, कौटिल्य (चाणक्य), अर्जुन पब्लिशिंग हाऊस, नई दिल्ली

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Public Administration

B.A. First Year

Semester – II

Indian Administration

Paper – IV

(Effective from Nov – 2016)

Credits : 03	Periods : 55	Marks : 75

Course Content :		**Periods**	**Marks**
1]	**Indian Parliament : Structure & Functions.**	**20**	**30**
	a] President.		
	b] Rajya Sabha.		
	c] Loksabha		
2]	**Union Government and Administration.**	**12**	**15**
	a] Prime Minister.		
	b] Council of Ministers.		
	c] Prime Minister's Office.		
3]	**Supreme Court of India : Structure & Functions.**	**08**	**15**
4]	**Constitutional – Non Constitutional Bodies :**	**10**	**15**
	a] Union Public Service Commission [U.P.S.C.]		
	b] Election Commission.		
	c] National Human Rights Commission.		

Recommended Books :-

1) Basu Durgadas, Introduction to the constitution of India, Wadhwa, and Co., Nagpur.

2) Maheshwari Shriram, Indian Administration, Kitab Mahal, New Delhi.

3) Vidya Bhushan & Vishnu Bhagwan, Indian Administration, S. Chand & Com., New Delhi.

4) भोळे भा.ल., भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापूरे प्रकाशन, नागपूर

5) पाटील बी.बी., भारतीय शासन व राजकारण, फडके प्रकाशन, कोल्हापूर.

6) विळेगावे व यमलवाड, भारतीय प्रशासन, क्रिएटिव्ह पब्लिकेशन, नांदेड

7) ठोंबरे सतिश, भारतीय प्रशासन, अभिजित पब्लिकेशन, लातूर.

PAPER TITLES

B.A. First Year (Semester – I) w.e.f. June, 2016

Paper No.	Title of the Paper	Internal Marks	External Marks
I	Principles of Public Administration	35	40
II	Evolution of Indian Admn. & consti.	35	40
B.A. First Year (Semester –II) w.e.f. June, 2016			
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
III	Administrative Organization	35	40
IV	Indian Administration	35	40
B.A. Second Year (Semester – III) w.e.f. June, 2017			
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
V	Personnel Administration	35	40
VI	State Govt. & Admnistration	35	40
B.A. Second Year (Semester – IV) w.e.f. June, 2017			
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
VII	Office Administration	35	40
VIII	District Administration	35	40
B.A. Third Year (Semester – V) w.e.f. June, 2018			
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
IX	Administrative Thinkers	35	40
X	Rural Local Govt. in Maharashtra	35	40
XI	Financial Administration	35	40
	OR		
XI	Rcent Trends in Pub.Admn.	35	40
B.A. Third Year (Semester – VI) w.e.f. June, 2018			
Paper No.	**Title of the Paper**	**Internal Marks**	**External Marks**
XII	Administrative Theory	35	40
XIII	Urban Local Govt. in Maharashtra	35	40
XIV	Major Trends & Issues in Pub.Admn.	35	40
	OR		
XIV	Financial Admn.& Public Policy	35	40

* * * * *

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
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वाणिज्य विद्याशाखेंतर्गत सर्व संलग्नित वाणिज्य महाविद्यालयंतील **B.Com. - II Year (Semester III & IV)** विषयाचा **C.B.C.S** अभ्यासक्रम शैक्षणिक वर्ष २०१७–१८ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, दिनांक ०३ मे २०१७ रोजी संपन्न झालेल्या ३८व्या मा. विद्या परिषद बैठकीतील विषय क्र.१२३/३८–२०१७ च्या ठरावानुसार वाणिज्य विद्याशाखेंतर्गत सर्व संलग्नित वाणिज्य महाविद्यालये, प्रस्तुत विद्यापीठ, येथे खालील अभ्यासक्रम शैक्षणिक वर्ष २०१७–१८ पासून लागू करण्यात येत आहे.

1. **B.Com. - II Year (Semester III & IV) (C.B.C.S)**

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विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/वाणिज्य/
२०१६–१७/२३
दिनांक : ०५.०६.२०१७.

स्वा/-
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत : माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित वाणिज्य महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, यू.जी.सी. कक्ष, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED,

Vishnupuri, Nanded- 431 606

B.Com.-II Year (Semester III)

Choice Based Credit System (C.B.C.S)

SYLLABUS

W.e.f. 2017-18

Paper No.	Name of the Paper	Lecture / Week	Total Period	Continuous Assessment (CA)	End of Semester Exam ESE	Total Marks	Total Credit
CC XI	New Trends Corporate Accounting	04	54	35	40	75	3
CC XII	Corporate Law	04	54	35	40	75	3
CCXIII	Principles of Business Management and Practice	04	54	35	40	75	3
CCXIV	Cost Accounting - I	04	54	35	40	75	3
CCXV	Banking and Finance	04	54	35	40	75	3
CCXVI	Income Tax - I	04	54	35	40	75	3
SEC I	A-I: Business Ethics A-II: E - Business Marketing AIII: Business Environment A-IV : E- Commerce	1 03	45	25	25	50	2
							20

SEC Should be Evaluated of Annually.

B.Com Second Year Syllabus (w.e.f.2017-18)

Semester III (CBCS Patterns)

New Trends in Corporate Accounting

(CC XI)

NO. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credits	03

Objective:

To understand knowledge of new trends in corporate accounting issue of share and redemption share

Chapter 1
Recent Concepts in Corporate Accounting (No of Lecture 08)
Introduction to corporate Account , online Banking, E-transaction, D-Mat Account, Debit Card, Credit Card, Swipe Machine, ATM

Chapter 2
Issues of Shares (No of Lecture 14)
Meaning and procedure of issue, Forfeiture and reissue of Equity Shares, Practical Problems on Accounting Entries of Issue, Pro-rata allotment of Shares

Chapter 3
Redemption of Preference Shares (No of Lecture 10)
Meaning and Procedure of redemption of preference shares, Types of preference shares, Redemption out of Fresh issue of Equity Shares, Redemption out of revenue Profit of Company, Practical Problems on accounting entries of redemption of preference shares and balance sheet after redemptions of preference shares

Chapter 4
Company Final Accounts (No of Lecture 14)
Preparation of profit and loss account, profit and loss appropriation, account and balance sheet in prescribed forms

Chapter 5
Profit Prior to in Corporation (No of Lecture 08)
Meaning, allocation of expenses and incomes between pre and post period, finding profit or loss

Recommended Book:

1) Practical Problem in Advanced Accountancy :S.P Jain and K.L Narang

2) Advanced Accounting : J.R. Batliboi

3) Advanced Accountancy : R.L.Gupta, M, Radhaswami

4) A New Approach To Accountancy – H.R. Kotalwar, Discovery Publishers

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

Corporate Law

(CC XII)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objectives:

To acquire knowledge and develop understanding of the necessary framework of companies with reference to various provisions or company act-2013

Chapter 1
Introduction (No of Lecture 10)

- Historical Developments of Concepts of Corporate Law in India;
- Company Definition, meaning, nature and its Characteristics;
- Types of Companies: Private Company, Public Company, Foreign Company, Government Company, One Man Company

Chapter 2
Incorporation (No of Lecture 10)

- Promoters: Meaning, Position, Duties, Rights, Responsibilities and Liabilities
- Memorandum of Association and its Alteration
- Articles of Association its Alteration
- Prospectus – Definition, Abridged Prospectus, Misrepresentations and Penalties

Chapter 3
Financial Structure I (Concept of Capital) (No of Lecture 12)

- Equity Shares with Differential Rights
- Issue of Shares at Par, Premium and Discount
- Forfeiture and Surrender of Shares
- Bonus Issues, Right Issues, Issues of Sweat Equity Shares, Employees Stock Option Scheme

Chapter 4
Financial Structure II (Debt Capital)

(No of Lecture 12)

- Debenture, Stock
- Bonds, Recent Trends and Dynamics of Corporate Debts Financing
- Debenture Trust Deed and Trustees
- Conversion and Redemption of Debenture

Chapter 5
Membership in a Company

(No of Lecture 10)

- Modes of Acquiring Membership
- Rights and Privileges of Members , Register of Members
- Dematerialization and Rematerialization of Securities
- Transfer and Transmission of Securities in Physical and Dematerialized Forms
- Nomination

Recommended Books

1) Company law : the institute of company secretaries of Indian, Mdule1
2) A text of company law, P.P.S Gavgan, Jain Book Agency, Delhi
3) The company act 2013 Bare Act
4) Companies law and secretarial practice by N.D. Kapoor, Sultan chand & sons New Delhi
5) Company law by rattan Nolakha, Sultan chand & sons New Delhi

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

Principles of Business Management and practice

(CC X III)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objective:

To know to make planning, decision making, controlling, staffing, organizing etc. to understand new approaches in management

Chapter 1
Introduction of Management (No of lecture 12)

Historical development of management (19th to 20th century), Definition of management, Scope of management, Role of management, Management Thinkers, F.W. Taylor and his scientific thought of management, Henry Fayol and his principles of management, Macgregor and his theory.

Chapter 2
Managerial Planning and Decision making (No of lecture 10)

The Concept of Planning, Nature, Importance of Planning, Benefits and effective Planning process, Types of Planning, Decision making, definition and concept.

Chapter 3
Staffing and organizing (No of lecture 12)

Nature, Definition, Personnel management, Selection Procedure, Steps of Selection Process, Training and Performance Appraisal

Definition, Importance, Principles of Organization, Types of Organization, Centralization and its Advantages & Disadvantages, Decentralization and its Advantages & Disadvantages

Chapter 4
New trends in management (No of lecture 10)

TQM, Quality circles, Public Private Enterprise Partnership, Six sigma and Bench marking, kaizens

Chapter 5
Managerial Skills (No of lecture 10)

Need and Importance, Classification of Skills, Process of Management Development, Steps of Management Development Process, Management Developments Techniques & Methods, Objectives of Management Development Programs, Planning of Development Program, Effectiveness of Development Program.

Recommended Books:

1) Principles of management by Dr. K.Natarajan and Dr.K.PGanesan
2) Principles of management by P.Subba rao
3) Principles of management by B.P.Singh / Dr.T Ramaswamy

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

Cost Accounting – I

(Core subject IV)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objective:

To understand knowledge of cost accounting, single output costing, material cost, labour cost and overhead

Chapter 1
Introduction to Cost Accounting (No of Lecture 10)
Meaning, Definition, Nature and Scope, Objectives, Concept of Cost, Elements of Cost & Classification, Methods & Techniques of Costing

Chapter 2
Single Output Costing (No of Lecture 10)
Meaning of Cost, Treatment of Stock of Raw Material, WIP, Finished Goods and Numerical Problems on Cost Sheet and Tender

Chapter 3
Material Cost (No of Lecture 12)
Material Control, Purchase Procedure, Methods of Pricing, Material Issues- FIFO, LIFO, Simple & Weighted Average, Inventory Management- Fixation of Stock Levels-Minimum Level, Maximum Level, Reorder Level, Economic Order Quantity, ABC Analysis (Numerical Problems on Above)

Chapter 4
Labour Cost (No of Lecture 12)
Meaning, Labour Cost Control, Time Keeping & Time Booking, Idle Time & Labour Turnover, Methods of Wage Payments; time Rate System, Incentive Plans of Halsey & Rowan, Taylor's Differential Piece Rate System

Chapter 5
Overheads (No of Lecture 10)
Meaning, Nature, Collection and Classification of Overheads, Numerical Problems on Machine Hour Rate

Recommended Book

1) Cost Accounting- S.P. Jain and K.L.Narang
2) Cost Accounting, Dr.S.N Maheshwari
3) Cost Accounting – Ravi. M Kishore
4) Advance cost Accounting, P.Das Gupta
5) Practical Costing, Dr. Sanjivkumar S.Agggrawal DR.V.K. Bhosale, Dr.Pankaj Aboti

B.Com. Second Year Syllabus (w.e.f. 2017-2018)
Semester III (CBCS Patterns)
Banking and Finance

(CC XV)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objective

To study the Indian Banking system, Banking regulation act 1949, Commercial Bank, Development Bank and Digital Bank

Chapter 1
Indian Banking System (No of lecture 12)

Introduction, Meaning and Definition, Evolution of Banking System, Structure of Banking System. Commercial Banking System in India: Introduction, Definitions and Functions.
Practical: Accounting Opening in Bank, Filling of Various Forms/Slips, Negotiable Instruments, Account Closure Procedure

Chapter 2
Banking Regulation Act, 1949 (No of lecture 12)

Introduction, Need of Banking Regulation Act, History of Banking Regulation Acts, Important Provisions, Social Control on Banking.
Practical: Financial Statement of Banks, Visit to Banks

Chapter 3
Nationalization of Commercial Banks (No of lecture 10)

Introduction, Objectives of Nationalization of Banks, Nationalization of Commercial Banks, Narsingham Committee Recommendations (I & II)
Practical: Narsingham Committee Report

Chapter 4
Developments of Banks in India (No of lecture 10)

Introduction, Objectives, Functions, Structure. NABARD, IDBI, ICICI, SFC, IFCI.
Practical: Visit to Development Bank in Area

Chapter 5
Digital Banking (No of lecture 10)

Introduction, Importance of Technology in Banking, ATM, Debit Cards, Credit Card, Mobile Banking, Net Banking, E-Wallets, UPI, NEFT/RTGS, Green Banking, USSD.
Practical: Filling of NEFT/RTGS Forms, Understanding ATM Transactions, Using Debit Cards & Credit Cards for online Transactions.

Recommended Books:

1) S. Natrajan and Parmeswarn- Indian Banking, S.Chand New Delhi
2) Mukund Mahajan – Indian Banking system Nirali Prakashan,Pune
3) Gordon and Natranjan – Financial markets and services Himalaya publication house, Mumbai
4) Khan.M.Y Indian Markets and institutions , TataMcgraw Hill, New Delhi
5) Ruddar datt and Sundharam – Indian economy

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

Income tax –I

(CC XVI)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objective:

To give knowledge of direct and indirect tax

Chapter 1
Introduction (No of Lecture 08)

History of Income tax Act 1961

Chapter 2
Basic concepts (No of Lecture 08)

Agriculture income, Person, Previous Year, Assessment Year, Assesses, Income, Gross Total Income, total Income

Chapter 3
Income from Salary (No of Lecture 14)

Chapter 4
Income from house property (No of Lecture 14)

Chapter 5
Income from capital Gain

Note:- Income tax Rule for Problems Previous Year.

(No of Lecture 10)

Reference Book:

1) Taxman : Student guide to income tax by Dr. Vinod Singhaniya, Dr. Monica Sighaniya

2) Kalyani Publishers: Income Tax law and Practice by V P Gaur, D.B Narang,Puja Gaur, Rajeev Puri.

3) Shitya Bhawan : Direct Tax Law and Practices By Dr.H.C Mharotra Dr. S.P Goyal

Skill Enhancement Course

(Note: college can opt minimum one out of four)

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

Business Ethics

(SEC A- I)

No. of Lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objective:

- To understand ethic and responsibility of Business
- To enhance your capacity to think, act and lead ethically
- To having an ethical perspective means that you have capacity to maintain ethical attitude and behavior in your personal and professional.

Pre requisites

- The present discipline is part of cycle of social and economic discipline
- Studying of the discipline is based on the following discipline i.e. Philosophy, Sociology, Psychology, History and Cultural Science
- Student should demonstrate the following knowledge and components ability to speak English and to Write English

Chapter 1

Introduction to Business Ethics (No of lecture 12)

Meaning of Ethics and Business Ethics, Objectives of Ethics, Nature of Ethics, Sources of Ethics, Importance of Ethics, Factors Influencing Business Ethics, Types of Ethics

Chapter 2

Ethical Aspects in Marketing (No of lecture 12)

Introduction to Marketing, Direct Marketing, Marketing Ethics and Consumer Rights, Marketing Mix, Criticism of Ethics in Marketing

Chapter 3

Ethics in Finance (No of lecture 15)

- Introduction
- Accountability and Acquisition
- Success
- Fair value
- Finance and Ethics
- Financial Markets

Chapter 4

Ethics in Social Responsibility and Corporate Social Responsibility (No of lecture 15)

- Introduction
- Material Ethics
- Challenging Expectation of Social Responsibilities
- Concept of Corporate Social Responsibility
- Nature of Corporation & Its Object

Recommended Books

1. Murthy C.S.V. (2014), “Business Ethics Text and Cases”, Himalaya publishing Pvt. Ltd
2. Prof. Bajaj P.S. and Prof. Agrawal Raj,(2012),”Business Ethics an Indian Perspective”, Biztantra Management for the Flat world, New Delhi.
3. Murthy C.S.V. (2013), “Business Ethics and Corporate Governance”, Himalaya Publishing Pvt. Ltd., Girgaon Mumbai.

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

E- Business Marketing

(SEC A - III)

No. of Lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objective :

- To create awareness about e-business marketing in student
- To understand the E-market context, E-business mode, performance metric & role of strategic planning
- To know how to use marketing function of product, pricing distribution and marketing communication for firm, E-marketing strategy.

Benefit:

- Cost and value creation: the marketing mix
- Creating positive customer experience
- Customer relationship management

Chapter 1
E-Business marketing (No of Lecture 14)

Brief History of E-Business and Internet, E-Commerce to E-Business & Spotting E- Business Trends, Building E-Business, Horizontal & Vertical Market Places, Merits and Demerits E-Market Places, Structure, Online Market & Distribution, ECRM, Merits and Demerits, Future Trends

Chapter 2
E-Business Application (No of Lecture 12)

E-Procurement & E-Payment System, E-Commerce Software & Payment Structure, Advantages, Methods & Techniques, E-Marketing, E-Market Environment

Chapter 3
Business Process Model (No of Lecture 08)

Customer Centric Business, Pre-Order, Point of Order& Post-Order, Customer Support

Chapter 4
E-Business Environment (No of Lecture 08)

Information Society, Multi-Optional Society, Ethics in Electronic Business, Privacy

Chapter 5
Digitizing the Business & E-Business (No of Lecture 10)

Design, E-Channel Pattern, E-Portal Pattern, E-Market, Market Pattern, Self Diagnosis

Recommended Book

Judy Strauss and Raymond Frost (2009), E marketing upper saddle NJ: Premier Hall

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

Business Environment

(SEC A- III)

No. of Lectures	45
End of Semester (University exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objective:

To understand business environment

Chapter 1
Nature and Scope of Business Environment (No of Lecture 12)

What is Business, Scope of Business, Characteristics of Today's Business, Business Goals, Nature of Environment, Benefits & Limitation of Study of Environment.

Chapter 2
Business Environment (No of Lecture 12)

International Environment, External Environment, Micro Environment, Environmental Change, Techniques for Environmental Analysis

Chapter 3
Economic Environment (No of Lecture 10)

Nature of Economic Environment, Economic Factors, Basic Economic Systems, Economic Planning

Chapter 4
Business and Society (No of Lecture 10)

Ecology & Business, Ecology & Economic Development, Nature of Physical Environment, Impact of Business

Chapter 5
Integrating Environment & Strategic Management (No of Lecture 10)

Integrating Environmental Segments, What is Strategic Management, Benefits and Requisites of Effective Strategy, Strategic Management Process.

Reference Books:

1. Business Environment for Strategic Management by Dr. K Aswathappa
   Himalaya Publishing House, Mumbai
2. Business Environment by Francis Cherumilam
   Himalaya Publishing House, Mumbai

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester III (CBCS Patterns)

E-Commerce

(SEC A-IV)

No. of Lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objective:

- Create awareness of e-commerce among student
- To know the role of E-commerce in world business scenario
- To develop the skills to use modern technologies for the business in global world
- To know and develop skills for cyber securities and secure payment gateway for cashless economy

Pre-Requisite:-

- Computer, Internet, Card Swipe Machine, Software for Online payment gateway

Benefit:-

- To aware students regarding cashless economy
- To help in knowing the E-Commerce and E-Payment

Chapter 1

Introduction (No of Lecture 13)

Meaning, Nature, Concept, Advantages, Disadvantages and reason for transacting , online types of e- commerce, E-commerce models(introduction, Key, element of a business model and categorizing major e-commerce business models) forces behind of e-commences

Chapter 2

Security and encryption (No of Lecture 13)

Ned and concepts, The e-commerce security environment (dimension, Definition and scope of e-commerce security) Security threats in E- commerce environment (security, intrusion and breaches attacking methods like hacking, sniffing, cyber –vandalism etc) Technology solution (encryption security channels of communication , protecting networks and protecting serves and clients)

Chapter 3

E –Payment System (No of Lecture 14)

Models and methods of e-payment (Debit and credit card, E-wallet, Payatm, VPI, online cash transfer, E-Money) Digital signatures (Procedure, Working and legal position) Payment gateways online banking (meaning concept, Importance, electronic fund transferred NEFT, RTGS Automated clearing house, Automated ledger posing) risks involved in E-Payment.

Chapter 4
On line Business Transactions (No of Lecture 14)

Meaning, Purpose, Advantages and disadvantages of transacting online E- Commerce application in various industries like (Banking, Insurance, payment of utility, Bills , Online marketing, e-tailing (Popularity, Benefit, and features) ,Online services (financial, Travel and career) , Auction , Online Portal, Online Learning, Publishing and entertainment, Online shopping (Amazon, Snap deal, Alibaba, Flip cart Etc)

Recommended Books

1. Kenneth C. Laudon and Carlo Guercio Traver, *E-Commerce*, Pearson Education.
2. David Whiteley, *E-commerce: Strategy, Technology and Applications*, McGraw Hill Education
3. Bharat Bhaskar, *Electronic Commerce: Framework, Technology and Application, 4th Ed.,* McGraw Hill Education
4. PT Joseph, *E-Commerce: An Indian Perspective*, PHI Learning
5. KK Bajaj and Debjani Nag, *E-commerce,* McGraw Hill Education
6. TN Chhabra, *E-Commerce,* Dhanpat Rai & Co.
7. Sushila Madan, *E-Commerce,* Taxman

*** * * * ***

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Vishnupuri, Nanded- 431 606

B.Com.-II Year (Semester IV)

Choice Based Credit System (C.B.C.S)

SYLLABUS

W.e.f. 2017-18

Paper No.	Name of the Paper		Lecture/ Week	Total Period	Continuous Assessment (CA)	End of Semester Exam ESE	Total Marks	Total Credit
CC XVII	Advanced Corporate Accounting		04	54	35	40	75	3
CC XVIII	Business Law		04	54	35	40	75	3
CC XIX	Risk Management		04	54	35	40	75	3
CC XX	Advanced Planning of India		04	54	35	40	75	3
CC XVI	Advance Cast Accounting		04	54	35	40	75	3
CC XXII	Income Tax - II		04	54	35	40	75	3
SEC II	B-I	Retail Business Accounting	03	45	25	25	50	2
	B-II	E- Cyber Crimes and Laws in Business						
	B-III	E-Insurance						
	B-IV	E- Governance						
								20

SEC Should be Evaluated of Annually.

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B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Advanced Corporate Accounting

(CC-XVII)

No. of Lectures	54
End of Semester (University Exam)	40
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objectives:

The objective of the course into makes the students practically sound in maintaining accounting of corporate world

Chapter 1

Redemption of Debenture (No of Lecture 10)

Meaning, types of debenture, Redemption of debenture. Problem on sinking fund Method only

Chapter 2

Amalgamation of companies (No of Lecture 12)

Meaning and causes of amalgamation of companies, methods of purchase consideration opening and closing entries in the books of companies and preparation of balance sheet.

Chapter 3

Reconstruction of a company (No of Lecture 10)

Meaning and need of reconstruction of company, types of reconstruction. Accounting entries related to internal reconstruction only preparation of revised balance sheet.

Chapter 4

Holding Company Account (No of Lecture 12)

Meaning of holding company and subsidiary company, holding company accounts with its only one subsidiary company, consolidated balance sheet, pre acquisition and post acquisition of profit intercompany debt and bills and debenture, cost of control, minority interest, and practical problem on consolidated balance sheet.

Chapter 5

Liquidation of a company (No of Lecture 10)

Meaning and cause of liquidation of a company, process of liquidation of a company, Role of company liquidation, accounting treatment of voluntary liquidation of a company

Recommended Book

1) Practical problem in advanced account only S.P.Jain and K.L.Narrang kalyani publishers

2) Advanced accounting – J..R.Batlisoi the standard account only publication private Ltd Mumbai.

3) Advanced accountancy : R.L Gupta,M Radnaswami sultan chand and sons new Delhi

4) A New approach to accountancy : H.R. Kotalwar discovery publishers Latur

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B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Business Law

(CC-XVIII)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objectives:
To acquired knowledge about law related to business

Chapter 1
Indian Contract Act- 1872 (No of Lecture 12)

Introduction, Definitions, Essentials of valid contract, Types of contract, E contract, Agreement and Contract, Discharge of contract, Remedies for breach of contract, E agreement

Chapter 2
The Negotiable Instruments Act 1881 (No of Lecture 12)

Introduction, Definitions and Characteristics, Promissory Notes, Bills Of Exchange, Cheque, Holder and Holder in due course, Presentation of negotiable instrument.

Chapter 3
The Sale of Goods Act 1930 (No of Lecture 10)

Introduction, Importance Definitions, Formalities of Contract of sales, difference between sales and agreement to sale and higher purchase, Conditions and warranties, Un paid seller.

Chapter 4
Consumer Protection Act 1986 (No of Lecture 10)

Introduction, Definition, consumer defects, deficiency and unfair trade practices, manufacture, Consumer council.

Chapter 5
Online shopping and legal provisions (No of Lecture 10)

Introduction, Debit card and credit card purchase protection, consumer right regarding online shopping, selling regulation, five ways to shop online

Recommended book:

1) K.R.Bulchandani Business low for management, Himalaya Publication house, Mumbai
2) N.D kapur, Business law, sultan chand and sons Delhi
3) G.K Varshney business regulatory frame work sahitya bavan, Agra
4) S.N Maheshvari, Business law, Himalaya publication house, Delhi
5) Dr.P.R. Kulkarni Prof. Hiwrekar, vidhya books publication Aurangabad

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B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Risk Management

(CC XIX)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objectives:

1) To impart the knowledge to the students about possible risk events, preventions of risks, measurements of risk, management of risk

2) To give insight about risk management and to develop the ability to understand techniques of risk management.

Chapter 1
Introduction: (No of Lecture 10)

Concept, Nature, Need and scope of risk, Sources, measurement, identification and evaluation of Risk. Types of risk: Product market risk and capital market risk, Business risk interest rate risk, Systemic risk, Unsystematic risk, Possible risk Events, risk Indicators.

Chapter 2
Risk Management: (No of Lecture 10)

Concept, Risk management Process, pre-requisites and fundamentals, Misconceptions of Risk, An Integrated approach to Corporate risk Management. Risk management approaches and methods. Risk reporting process.

Chapter 3
Instruments and Techniques of Risk Management: (No of Lecture 10)

Hedging Techniques: Internal and External Techniques- Netting, Matching, Leading and Lagging, Price Variation, Short term Borrowing, Pricing in foreign currency, Asset Liability Management.

External Techniques: Forwards, Futures, Swaps, Options, Forward Rate Agreement, Caps, Collars, Floors and their applications - Pricing, techniques, operational aspects.

Chapter 4
Portfolio Analysis (No of Lecture 12)

Traditional Vs Modern Rationale diversification- Markowitz Theory, Effect of Combining Two Securities Measurement of Expected Return of Portfolio – Portfolio Risk .

Chapter 5
Insurance as an instrument of Risk Cover

(No of Lecture 12)

Marine, Life, Accident, Process, Loss of Profit Export Credit Guarantee Corporation

Recommended Books:

1) Paul Hopkins, Kogan Page " Fundamentals of Risk Management " 2010, Institute Of Risk Management

2) David. A. Dubofsky and Thomas . W. Miller, Jr., "Derivatives Valuation and Risk Management", 2003, Oxford University Press.

3) Jean-Philippe Bouchaud and Mark Potters, "Theory of Financial Risk and Derivative Pricing", 2009, 2nd Ed. Cambridge press

4) "Theory and Practice of Treasury and Risk Management in Banks" , Indian Institute of Banking and Finance, March 2006, Taxmann

5) Peter S. Rose and Sylvia C. Hudgins, "Bank Management and Financial Services", 7 th Ed, Tata McGraw-Hill

6) Don M. chance and Robert Brooks, "Derivatives and Risk Management Basics", 2008, Indian Edition, Cengage Learning

7) M. A. H. Dempster, "Risk Management: Value at Risk and Beyond", 2002, Cambridge press.

8) Principals of Insurance

9) Principals of Insurance-Mishra

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B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Advanced Planning in India

(CC XX)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objectives: To study economic planning in India

Chapter 1

Introduction (No of Lecture 10)

Important features of Indian plans, Evolution of planning, objectives of Economic Planning in India, Role of planning in a market economy, Mixed economy and Economic planning, Accomplishments of Economic planning, PURA an appraisal of the planning process.

Chapter 2

Agricultural Development (No of Lecture 10)

Introduction, Importance of Agriculture in National Economy, Need and Scope for land Reforms in a developing economy, Sources of Agricultural Finance, Model APMC Act, Agricultural subsidies, Investment in Agriculture, National Agriculture Policy. Vision 2020

Chapter 3

Infrastructure Development (No of Lecture 12)

Introduction, Meaning and definition, Infrastructure and Economic Development, Transport System Role in India's Economic Development, Rail-Road Transport, Power or Electricity, Issues and policies in financing infrastructure development, Regional imbalance.

Chapter 4

Foreign Trade (No of Lecture 12)

Meaning and definition of Foreign Trade, Structure and direction of Foreign Trade, Foreign Capital, Issues in Export-Import Policy, New Export-Import Policy (2015-20)- It's Features and Objectives, The progress of Trade Reforms in India, FPI (Foreign Portfolio Investment)

Chapter 5

NITI Aayog (No of Lecture 10)

Introduction, Establishment of NITI Aayog, Objectives of NITI Aayog, Features of NITI Aayog, Role and Functions of NITI Aayog, difference between NITI Aayog and Planning Commission, Achievements of NITI Aayog .

Recommended Books:

1. Indian Economy- Ruddar Dutt and K.P.M. Sundaram- S. Chand Publication.
2. Indian Economy- V. K.Puri and S.K. Misra –Himalaya Publication.
3. Indian Economy- Ramesh Singh- McGraw Hill.
4. Indian Economy- Performance and Policies – UMA KAPILA
5. Indian Economy- Problems of Development and Planning- A.N. Agrawal and M.K.- New Age International Publishers.

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B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Advanced Cost Accounting

(CC XXI)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objectives

To understand knowledge of cost, process, contract and operation

Chapter 1

Cost Accounting Records of cost Audit (No of Lecture 10)

Nature of scope of cost audit. Cost Accounting Records and cost Audit. Under company Act- Purpose, scope and Advantages of cost Account, Implementing Authorities of cost Audit,Cost Audit Techniques and Programs, Cost Audit Report, Cost Auditor – Appointment Rights and responsibilities.

Chapter 2

Process Costing (No of Lecture 12)

Meaning and Features of Process Costing Treatment of Normal loss. Abnormal loss and Abnormal Gains Joint Products By – Products and Accounting Practical Problems on above.

Chapter 3

Contract costing (No of Lecture 12)

Meaning and features of Contract costing contract v/s Job costing Treatment of profit and Reserve Profit, value of work-in-progress and Practical Problems on Preparation of contract Account and Balance sheet.

Chapter 4

Operating Costing: (No of Lecture 10)

Meaning and Features of operating costing service cost unit. Single and Compound unit.
Practical Problems on Transport Industry.

Chapter 5

Reconciliation of Cost and Financial Account (No of Lecture 10)

Need of Reconciliation, reasons for Disagreement in Profit as per cost and Financial Accounts Methods of Reconciliation Procedure of Reconciliation Practical Problems on Preparation of Reconciliation Statement.

Books Recommended :

1. Cost Accounting : S. P. Jain, K.L. Narang.
2. Cost Accounting : Dr. S. N. Maheshwari
3. Cost Accounting : Ravi M. Kishore.
4. Advanced Cost Accounting : P. Das Gupta
5. Practical costing : Khanna,Pande,Ahuja,Arora
6. Practical Costing: Dr.Sanjvkuar Agrwal
   Dr.V.K Bhosle
   Dr. Pankaj Aboti

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B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Income tax II

(CC XXII)

No. of Lectures	54
End of Semester (University Exam)	40 Marks
Continuous Assessments (CA) (Internal)	35 Marks
Total	75 Marks
Total Credit	03

Objectives:

To study about taxable income, computation of tax

Chapter 1

Exempted Income under Section 10 (No of Lecture 08)

Chapter 2

Income from Profession (No of Lecture 10)

Chapter 3

Incomes from Business (No of Lecture 12)

Chapter 4

Income from other source (No of Lecture 12)

Chapter 5

Computation of total income with deduction under section 80C 80D 80DD, 80U and 80E

Note:- Income the Rules for Problems Previous year.

(No of Lecture 12)

Recommended book:

1) Taxman student Guide to income tax by Dr. vinod singnahaniya Dr.Monica signghaniya
2) Kalyani publication income tax law and practice by V.P Gaur ,D.B.Narang, Pooja Gaur, Rajeev Puri.
3) Sahitiya bhavan : direct tax law and practice by Dr.H.C Mharotra,Dr. S.P.Goyal

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Skill Enhancement course

(Note: College can opt minimum one out of four)

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Retail Business Accounting

(SEC B-I)

No. of Lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objectives:

1) to create awareness regarding retail and accounting transaction

2) To provide practical training to student

Chapter –1
Billing and Accounting procedure in retail (No of Lecture 10)

- Introduction
- Billing procedure
- Accounting cycle for retail business
- Single VS Double entry book keeping system
- Computerized Accounting
- Automation of billing procedure

Chapter – 2
Accounting documents for retailers (No of Lecture 12)

- Bills purchase bill and sales bill
- Invoice inward and outward
- Delivery challan
- Debit and credit note
- Voucher Debit and credit
- Stock register

Chapter- 3
Banking operations retailers (No of Lecture 10)

- Types of bank account
- Opening bank account online and offline
- Cash deposit and withdrawn online and offline CDM, ATM
- RTGS, NEFT, IMTS
- Pass book and account statement
- Cheque writing, Deposit, online banking

Chapter - 4
Inventory management (No of Lecture 10)

- Introduction and type of inventory
- Inventory management
- Inventory control system

Chapter- 5 Formal Activities (No of Lecture 12)

1) Writing cash book (traditional method)
2) Using bar code reader for billing
3) Use of special key board for billing
4) Preparation of sales bill (manual) and computerized generation of bar code
5) Preparation of voucher Dr voucher and Cr voucher
6) Preparation of Dr Note and Cr Note
7) Preparation of invoice
8) Preparation of delivery challan
9) Preparation of stock register
10) Filing of accounting documentary
11) Filling of bank account opining from
12) Cash withdrawal and depositing using automated and manual system
13) Filing of RTGS AND NEFT FORMS
14) Reading of pass book and account statement
15) Writing of cheque
16) Depositing cheque
17) Stock verification

Recommended Book:

1) Study module of CA & CS AND CMA
2) Web of public and private sector bank
3) Financial Accounting – Jain and Narang
4) Cast Accounting by Jawaharlal

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

Cyber Crimes and Laws in Business

(SEC – B II)

No. of Lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objective:

This paper intends to create an understanding towards the cyber crimes and to familiarize the students with the application of cyber laws in business and general.

Chapter 1
Introduction to cyber crimes (No of Lecture 15)

Introduction of computer crime and cyber cries distinction between cyber crime and conventional crimes, cyber forensic, kinds of cyber crimes, cyber stalking, cyber terrorism, forgery and fraud, crimes related to IPR, Computer vandalism, privacy of online data, cyber jurisdiction, copyright issues , and Domain name dispute etc.

Chapter 2
Definition and terminology (information technology Act, 2000) (No of Lecture 15)

Concept of internet, internet Governance, E Contract, E forms, encryption, Data security, Access, Addressee, Adjudication officer, Affixing, Digital signatures, appropriate Government, Certifying authority, certification practice, Certification practice statement, computer, computer Network, Computer resource, Computer system, cyber appellate tribunal, Data Digital signature, Electronic form, Electronic Record, Information Intermediary, Key, Pair, Originator, Public key, Secure System, Verify, subscriber as defined in the information technology Act, 2000

Chapter 3
Electronic Records (No of Lecture 12)

Authentication of Electronic Records, Legal Recognition of Electronic Records, Legal Recognition of digital signatures, Use of electronic records And Digital signatures in government and its agencies, Retention of electronic records, Attribution, Acknowledgement and dispatch of electronic record, secure electronic records and digital signatures.

Chapter 4
Cyber Crime in Business (No of Lecture 12)

Introduction, Different types of cyber crime in business precautions to avoid cyber crime in business (Case Study of cyber crime)

Recommended Books:

1) Dfraim Turban, Je Lee, King, David and H M Chung , Electronic Commerce – A Managerial Perspective, Pearson Education
2) Joseph, P.T E- Commerce - An Indian Perspective PHI
3) Chaffey, Dave, E Business and E- Commerce Management ,Pearson Education
4) Painttal, Dcv ,Law of information Technology, Taxman publication Pvt New Delhi
5) SharmaJ.P. and sunaina kanojia cyber laws, Ane books Pvt Ltd , New Delhi

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

E-Insurance

(SEC B - III)

No. of Lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objectives

1) The aim of this course is to give some insight about e-services in insurance sector.
2) Ability to understand online services regarding insurance policy.
3) To impart insurance knowledge and skills together with technology-familiarity and customer-orientation.

Chapter 1

Introduction (No Of lecture 10)

Meaning and Definition of Insurance; Types of Insurance Life Insurance and General Insurance, Selling and Buying of Life Insurance Policies, and General Insurance (Health Insurance Policies, Motor Policies, Property Insurance Policies, Travel Insurance Policies, Crop Insurance) Why, what ,How and dos and don'ts approach in buying

Chapter 2

Insurance as a Career (No of Lecture 10)

Insurance sales Agent, as a career, educational qualifications, how to become a insurance sales agent, insurance sales training, license certifications and registration, important qualities of insurance sales agent, duties of insurance agent, job outlook for insurance agent,

Chapter 3

Information Technology (IT) Application in Insurance (No of Lecture 12)

Introduction, objectives, meaning of information technology, insurance related applications, policy management, life insurance applications, insurance software; collection of basic Information of various software used by insurance agents

Chapter 4

Concept of E-Insurance (No of Lecture 12)

E-Insurance meaning, Features of e-insurance account, Benefits of e-insurance account IRCA Guidelines for e-insurance policies, insurance Repository, Background, Role and Objectives of insurance Repositories, the repository Eco-system, Meaning of e-insurance account, opening of e-insurance account by insurance repository branch and approved persons, KYC documents, Opening of e-insurance account by insurer, Issuance of e-policy , policy servicingE-insurance application form, statement of account, payment options, grievances mechanism, portability of insurance repository

Chapter 5

Filing of Forms (No of Lecture 10)

Filing of Standard proposal form for life insurance, Health, Motor, Property and Travel insurance, Details of proposer and or/life assured, specialized/ additional information, suitability

Analysis, product proposed, filing of claim Forms, Hand's on Activity: (Practical's to be conducted on above parts) any five out of eight

1) Visit/ lectures of / to insurance agents office
2) Preparing action plan of an insurance agent
3) Collection of detailed information of 5 Products sold by at 5 life insurance, health, motor, Properly and Travel insurance companies each
4) Presentation of 5 insurance products before students in class-room and its assessment by teacher
5) Collections of essential forms of policies like life Insurance, health insurance, Motor insurance, Property Insurance and Travel Insurance
6) Filing of proposal forms- life, health, insurance, motor, property, and travel insurance (5 each)
7) Opening of e-insurance account (e-insurance account opening of at least 10 Persons)
8) Preparing claim forms

Books Recommended:

1) Mishra.M.N Insurance principles and practice s.chand and company New delhi
2) Dr.P. Periasamy, Principles and practice of insurance Himalaya Publication house –Delhi
3) Vinayakam N Radhaswamy and vasudevan S.V Insurance –principles, s. chand and con New delhi
4) Insurance resulatory and development authority – Insurance repository A step towards e-insurance available on www. Policyholder.gov.in

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

B.Com. Second Year Syllabus (w.e.f. 2017-2018)

Semester IV (CBCS Patterns)

E- Governance

(Course B- IV)

No. of Lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessments (CA) (Internal)	25 Marks
Total	50 Marks
Total Credit	02

Objective:
To study the concept of e-governance models and online transaction

Chapter 1

Introduction (No of Lecture 12)

Meaning of governance and e-governance, difference between governance and e-governance, need of e-governance, advantages and disadvantages of e-governance, scope of e-governance

Chapter 2

Models of e-governance (No of Lecture 10)

Introduction, Government to Citizens, Government to Employees, Government to Business, Government to Government.

Chapter 3

Areas of E-governance (No of Lecture 10)

E-governance in urban areas
E-governance in rural areas

Chapter 4

Online Transaction: (No of Lecture 12)

Online payments various bills, Taxes, EMI'S, Paytm, Freecharge, online banking-NEFT,RTGS .

Chapter 5

Practical (No of Lecture 10)

Mobile recharge, Dish TV recharge, Electricity Bills payments, Online Banking.

Recommended Books

1. e-governance concepts and case studies, C S R Prabhu Prentile-Hall of India pvt.ltd.Kindle Edition.
2. e-book on e-governance A Gateway of Smart governance. Dr.M K Sharma, Haldwani (Uttarakhand)
3. e-goverance Dr. Vinod V. Chinte Master Deenanath Mageshkar college,Aurad Shahajani.

* * * * *

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ
नांदेड– ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY
NANDED-431606, MAHARASHTRA STATE, INDIA.
Established on 17th September 1994 - Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

ACADEMIC (1-BOARD OF STUDIES) SECTION

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संलग्नित महाविद्यालयांतील बी.कॉम.
(प्रथम वर्ष) सी.बी.सी.एस. पॅटर्नचा
अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७
पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील वाणिज्य विद्याशाखेतील** खालील विषयाचा **सी.बी.सी.एस. पॅटर्नचा** अभ्यासक्रम शैक्षणिक वर्ष २०१६–१७ पासून लागू करण्यात येत आहे.

१. बी.कॉम. (प्रथम वर्ष))

सदरील अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहे. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक(१)/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१६–१७/**६१७**
दिनांक : २३.०७.२०१६.

स्वाक्षरित/–
संचालक
महाविद्यालय व विद्यापीठ विकास मंडळ

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. परीक्षा नियंत्रक यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Structure of B.Com Programme under CBCS Pattern w.e.f. 2016-17

Semester & Credits	Core Course [12]	Ability Enhancement Compulsory Courses [AEC] [8]	Skill Enhancement Courses [SEC] [4]	Discipline Specific Elective [DSE] [6]	Generic Elective [2]
I Credits 21	1. Financial Accounting – I 2. Fundamentals of Statistics– I 3. Business Communication – I 4. Business Economics – I	1. English Communication 2. SL	-	Elective Paper [Any one] 1. Computer for Business & Tally I 2. Entrepreneurship I 3. Salesmanship I 4. Office Management I 5. UGC Vocational	
II Credits 21	1. Financial Accounting – II 2. Fundamentals of Statistics–II 3. Business Communication–II 4. Business Economics – II	1. English Communication 2. SL	-	Elective Paper [Any one] 1. Computer for Business & Tally II 2. Entrepreneurship II 3. Salesmanship II 4. Office Management II	
III Credits 26	1. Corporate Accounting – I 2. Corporate Law – I 3. Principles of Business Management – I 4. Cost Accounting – I 5. Income Tax I	1. English Communication 2. SL	SEC-I	1. Banking & Finance 2. Indirect Tax 3. Disaster Management 4. Transportation 5. UGC Vocational	
IV Credits 26	1. Corporate Accounting – II 2. Corporate Law – II 3. Principles of Business Management – II 4. Cost Accounting – II 5. Income Tax II	1. English Communication 2. SL	**SEC-II**	1. Banking & Finance 2. Indirect Tax 3. Di Management 4. Transportation 5. UGC Vocational	
V Credits 23	1. Advanced Accounting & Auditing – I 2. Management Accounting – I 3. Economic Development & Planning in India – I 4. Business Regulatory Frame Work – I		SEC-III	DSE A-I DSE B-I DSE C-I	
VI Credits 23	1. Advanced Accounting & Auditing – II 2. Management Accounting–II 3. Economic Development & Planning in India – II 4. Business Regulatory Frame Work – II		SEC-IV	DSE A-II DSE B-II DSE C-II	
Total Credits 140	**No. Credits: 78**	**No. Credits: 24**	**No. Credits: 08**	**No. Credits: 30**	**No. Credits:**

Scheme of B.Com. Programme under CBCS

Semester	Course Opted	Credits	Course Name	Credits	Total Credits
I	1. Financial Accounting – I 2. Fundamentals of Statistics & Maths-I 3. Business Communication – I 4. Business Economics – I 5. Elective Paper [Any one] 1. Computer for Business & Tally I 2. Entrepreneurship I 3. Salesmanship I 4. Office Management I	3 3 3 3 3	1. English – I Communication Soft Skill 2. Second Language – I	3 3	
	Total	**15**		**6**	**21**
II	1. Financial Accounting – II 2. Fundamentals of Statistics & Maths-II 3. Business Communication – II 4. Business Economics – II 5. Elective Paper [Any one] 1. Computer for Business & Tally II 2. Entrepreneurship II 3. Salesmanship II 4. Office Management II	3 3 3 3 3	1. English – II Communication Soft Skill 2. Second Language – II	3 3	
	Total	**15**		**6**	**21**
III	1. Corporate Accounting – I 2. Corporate Law – I 3. Principles of Business Management-I 4. Cost Accounting – I 5. Banking & Finance I 6. Income Tax – I	3 3 3 3 3 3	1. English – I Communication Soft Skill 2. Second Language – I 3. Practical of Corporate Law & Cost Accounting	3 3 2	
	Total	**18**		**8**	**26**
IV	1. Corporate Accounting – II 2. Corporate Law – II 3. Principles of Business Management-II 4. Cost Accounting – II 5. Banking & Finance II 6. Income Tax – II	3 3 3 3 3 3	1. English – II Communication Soft Skill 2. Second Language – II 3. Practical of Corporate Law & Cost Accounting	3 3 2	
	Total	**18**		**8**	**26**

Semester	Course Opted	Credits	Course Name	Credits	Total Credits
V	1. Advanced Accounting & Auditing-I 2. Management Accounting – I 3. Economic Development & Planning in India – I 4. Business Regulatory Frame Work-I 5. A. Taxation 1. Income Tax Law & Practice – I 2. Vat & Service Tax – I 3. Training **Or** B. Banking & Insurance 1. E-Banking & Accounting – I 2. E-Insurance & Accounting – I 3. Training	3 3 3 3 3 3 3	SEC III	**2**	
	Total	**21**		**2**	**23**
VI	1.Advanced Accounting & Auditing-II 2. Management Accounting – II 3. Economic Development & Planning in India – II 4. Business Regulatory Frame Work-II 5. A. Taxation 1. Income Tax Law & Practice – II 2. Vat & Service Tax – II 3. Project Work **Or** B. Banking & Insurance 1. E-Banking & Accounting – II 2. E-Insurance & Accounting – II 3. Project Work	3 3 3 3 3 3 3	SEC IV	**2**	
	Total	**21**		**2**	**23**
Total					**140**

Scheme of B.Com. Programme under CBCS Pattern

Semester	Course Opted	Course Name	Credits
I	Ability enhancement compulsory course - I	1. English – I Communication Soft Skill	03 03
	Core Course A-I	Section A & B	6
	Core Course B-I	Section A & B	6
	Core Course CE-I	Section one	3
			21
	Total SEM I		
II	Ability enhancement compulsory course - II	1. English – I Communication Soft Skill	
	Core Course A-II	Section A & B	6
	Core Course B-II	Section A & B	6
	Core Course CE-II	Section one	3
	Total SEM II		**21**
	Total Sem I & II		**42**
Semester III	Ability enhancement compulsory course – III	1. English – I Communication Soft Skill	3 3
	Core Course A-III	Section A & B	6
	Core Course B-III	Section A & B	6
	Core Course CE-III	Section A & B	6
	Skill enhancement course-I	SEC-I	2
	Total SEM III		**26**
IV	Ability enhancement compulsory course-IV	1. English – I Communication Soft Skill	3 3
	Core Course A-IV	Section A & B	6
	Core Course B-IV	Section A & B	6
	Core Course CE-IV	Section A & B	6
	Skill enhancement course-II	SEC-I	2
	Total SEM IV		**26**
	Total Sem III & IV		**52**

Semester	Course Opted	Course Name	Credits
V	Discipline specific Elective B-I	DSE B-I	6
	Discipline specific Elective C-I	DSE C-I	6
	Discipline specific Elective C-I	DSE C-I	6
	Generic Elective GE-A I	GE- A I	3
	Skill enhancement course IV	SEC-IV	2
	Total SEM V		**23**
V	Discipline specific Elective A-II	DSE A-II	6
	Discipline specific Elective B-II	DSE B-II	6
	Discipline specific Elective C-II	DSE C-II	6
	Generic Elective GE-A II	GE- A II	3
	Skill enhancement course V	SEC-V	2
	Total SEM VI		**23**
	Total Sem V & VI		**46**
	Total Course Credits		**140**

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B.COM. FIRST YEAR

[CBCS PATTERN SYLLABUS] [2016-2017]

Semester - I

Sr.No.	Subjects	Sem I
1.	Financial Accounting	I
2.	Business Communication	I
3.	Business Economics	I
4.	Fundamentals Statistics & Maths	I
5.	Elective Paper **[Any One]**	
1.	Computer for Business & Tally	I
2.	Entrepreneurship	I
3.	Salesmanship	I
4.	Office Management	I

B.Com. I Year (Ist Semester)

Paper No. : BC 1.1

Financial Accounting I

Learning Objectives :

To develop conceptual understanding of fundamentals of financial accounting system and to impart skills in accounting for various kinds of business transactions.

Unit 1 Introduction

Meaning of Book Keeping and Accountancy, Accounting Concepts and Conventions. Types of Account and rules of Debit and credit, Journal, Ledger and Trial Balance, Revenue expenses and incomes, capital income and expenditure.

Unit 2 Subsidiary Books

Nature, meaning & need of maintaining subsidiary books with five problems consisting entries to be recorded in all subsidiary books. (Purchase books, Sales books, Purchase Return Books, Sales Return Books, Simple Cash books)

Unit 3 Rectification of Errors

Meaning, need, procedure of rectification of errors, types of Rectification of errors. Errors before preparing trial balance, errors after preparing trial balance and after preparing final Accounts and their rectification.

Unit 4 Final Accounts

Meaning & Significance of final Accounts, preparation of Trading Account, profit & loss Account & Balance Sheet of sole trading concern with adjustments.

References :

1. Financial Accounting - P. C. Tulsian
2. Financial Accounting - Prof. Kishor Nikam, Mr. Santosh Bhange.
3. Financial Accounting - Prof. Y. R. Thorat, Dr. N. M. Nare, Dr. D. B. Bharti, Prof. B. L. Jagtap.
4. Financial Accounting - M. G. Patkar
5. Advances Accounting – Dr. Shukla & Dr Gerewal
6. Modern Accountancy Volume – A Mukharjee M. Hanif

B.Com. I Year (Ist Semester)

Paper No. : BC 1.2
BUSINESS COMMUNICATION - I

Course Objectives
i) To Develop Communication Skills of Students
ii) To help in personality development
iii) To improve speaking, learning, and interview skills of students.

Unit: I Introduction to Business Communication
Introduction, Definitions, Basic forms of communication process. Effective communication. Development of positive personal attitudes. SWOT analysis.

Unit: II Corporate communication
Formal and Informal communication network. Barriers of communication. Improving communication. Group discussion, Seminar, Mock interview.

Unit: III Principles of Effective Communication

Unit: IV Writing Skills
Drafting of business letters, : Sales letter, office memorandum, Memo formats, Applications for Job, Enquiry letter, Request letter, Report writing.

Unit: V Communication Skills
Listening Skill: Principles of Effective listening, factors affecting listening skills. Interviewing Skills - Appearing an interview, conducting interviews. Speaking skills - Principles of effective speaking.

Reference Books
1. Business Communication – D.D.Singhal – Ramesh Book Depo. Jaipur
2. Business Communication – Varinder Kumar- Kalyani Publication Ludhiyana
3. Communication Skill- DR P L Pardeshi –Nirali Publication Pune
4. Essential of Business Communication – Rajendrapal – sultan chand & son New Delhi.

B.Com. I Year (Ist Semester)

Paper No. B.C 1.3

Business Economics - I

Course Objective

The objective of this course is to acquaint the students with the business economic principles as are applicable in business.

Unit 1. Introduction

Meaning, definition, characteristics, significance and scope of business economics, objective of a business *firm*, Concept of Macro and Micro economics.

Unit 2. Elasticity of Demand

Concept, Measurement and determinants of elasticity of demand. Price elasticity, income elasticity and cross elasticity. Importance of elasticity of demand.

Unit 3. Production Function

Concept of production function, Law of variable proportions, laws of returns to scale, internal and external economies and diseconomies. Of scale , Iso-cost & Iso-quant curve, least cost input.

Unit 4 Theory of Cost

Different cost concepts : opportunity cost, real cost, money cost, explicit and implicit cost, short run cost curves, fixed cost, variable cost and total cost, Average Fixed cost, Average variable cost, Average Total cost, and Marginal cost, long run cost curves.

References:

1) Ahuja H.E. Business Economics ; S.Chund and Co.New Delhi. Koustsoyianni ; A Modern Micro Economics : Macmillan New Delhi.
2) D.M. Mithani, G.K.Murthy; Fundamentals of Business Economics. Himalaya Publishing IIouse,New Delhi.
3) G.N.Zambre : Business Economics : Pimplapure Publishers Nagpur.
4) V.G.Mankar : Business Economics. Himalaya Publishing house, Bombay, Delhi. Nagpur.
5) जी.एन. झांबरे, डॉ.मेघे,व्यावसायिक अर्थशास्त्र पिंपळापुरे ॲन्ड कं. पब्लीशर्स नागपूर

B.Com. I Year (Ist Semester)

Paper No. : BC 1.4
Fundamental of Statistics & Maths - I

Course Objective:

The objective of this course is to provide fundamental basic knowledge of statistics techniques as applicable to business.

Unit 1 Introduction to Statistics

1 Meaning of Statistics
2 Scope of Statistics in industry, economics and management.
3 Meaning of Primary and secondary data.
4 Qualitative and quantitative data, discrete and continuous variables, frequency and frequency distribution.

Unit 2 Measures of Central Tendency (Averages)

1 Meaning & Concepts of central tendency.
2 **Arithmetic Means** : Definition, Properties of Arithmetic Means, Combined Mean.
3 **Positional Averages** : Median & Mode Partition Values.
4 Empirical relation between Mean, Median & Mode.
5 Merits & Demerits of Mean, Median & Mode.
6 Numerical Problems.

Unit 3 Measures of Dispersion

1 Meaning & concepts of Dispersion.
2 Range - Meaning, definition, coefficient of Range.
3 Quartiles Deviation, Meaning, definition, coefficient of Quartile Deviation
4 Mean Deviation - Meaning, definition of Mean Deviation (about mean, median), Co-efficient of Mean Deviation
5 Standard Deviation and Variance - Meaning, Definition, Coefficient of Standard Deviation Combined Standard Deviation for two groups.
6 Coefficient of Variance (C. V.) - Meaning & definition.
7 Merits & Demerits of QD, MD & SD.
8 Numerical Examples.

Unit 4 **Co-relation Analysis (Two Variables Only)**

1 Meaning, Concepts, definition & types of co-relation.
2 Computation of r for ungrouped data, Computation of Co-relation.
3 Numerical Problems.

Unit 5 **Regression Analysis (Two Variables only)**

1 Meaning & Concepts of Regression - Lines of Regression.
2 Relation between correlation coefficient & regression coefficient.
3 Numerical Problems

References :

1. Statistical Methods - S. C. Gupta
2. Fundamentals of Statistics - S. D. Gupta
3. Statistics (Theory, Methods & Applications) - Sanehti & Kepur.
4. Business Statistics - S. S. Desai
5. Business Statistics - G, V. Kibhojkar

B.Com. I Year (I Semester)

Paper No. B.C. 1.5

Computer for Business & Tally I

Course Objective

Objective of this course is to provide computer techniques applied in solving business problems.

Unit 1 **Introduction to Computer:**

Meaning, Definition, Importance, features & functions of Computer; Components of Computer; Types of Computer; Hardware and Software, Input & Output Devices, Role of Computers in Business.

Unit 2 **Computer Memory & Languages:**

- **Introduction, Meaning & Types of Computer Memory** – Primary and Secondary Memories;
- **Types of Storage** Devices: Auxiliary storage, Tapes, Floppy disks, Hard Disks, Compact Disk, Pen device (USB).
- **Computer Languages:** Introduction, Meaning, Types of Computer Languages, Advantages & Limitations.

Unit 3 **Number System:**

Introduction, Types of Number System - Decimal, Binary, Octal, and Hexadecimal (Simple numerical problems of conversion of number from one number system to another are to be covered)

Unit 4 **Computer Based Business Applications:**

Operating System Window, Word processing - MS-Word, MS-Excel, work with MS-Word & MS-Excel, formatting document, Text designing, Column. Tables & Graphs.

Unit 5 **Computer Networking (Internet)**

Introduction, Importance of Internet, Internet & WWW, Internet & E-mail, Internet & E-Commerce, Social networking, Advantages & Disadvantages of Social Networking for Business.

Reference Books:

1. **Chefan Shrivastava** - Fundamentals of Information Technology -Kalyani Publishers, New Delhi.
2. **Dr. Jitendm Ahirrao** - Information Technology - Kailash Publications, Aurangabad.
3. **Kapur V.K.** - Computers & Information Technology - Sultan Chand & Sons, New Delhi.
4. **S.K. Srinivasa Vallabhan** - Computer Applications in Business -Sultan Chand & Sons, New Delhi.
5. **V. Rajaraman** - Fundamentals of Computers - Prentice Hall of India, New Delhi.

B.Com. I Year (I Semester)
Paper No. B.C. 1.5
Entrepreneurship - I

[The main learning objective of the course is to provide Entrepreneurial ability and skill to the students]

Unit I **Entrepreneur**
Definitions, characteristics, functions, types of Entrepreneurs, traits for Entrepreneur, Entrepreneur v/s manager, Entrepreneur and economic development.

Unit II **Entrepreneurship**
Meaning, Definitions, characteristics, nature of Entrepreneurship, classification, importance and benefits, factors stimulating Entrepreneurship, Entrepreneur v/s Entrepreneurship, environment for Entrepreneurship, obstacles inhibiting Entrepreneurship.

Unit III **Entrepreneurship development in India**
Historical background of Entrepreneurship development, Entrepreneurship development programme [EDP] objectives, process of EDP, phases of EDP, Institute for Entrepreneurship development, Maharashtra centre for Entrepreneurship development [MCED]

Unit IV **Women Entrepreneurs**
Concept of women Entrepreneur, factors influencing women Entrepreneurs, types of women Entrepreneurs, women Entrepreneurs in India, support and assistance, problems, remedial measures.

Reference Books:

1] Entrepreneurship development, E gordan and K Natarajan, Himalaya Publishing house, Mumbai
2] Fundamentals of entrepreneurship, G.S. Sudha, Ramesh Book depo. Jaipur
3] उद्योजकता विकास संकल्पना आणि व्यवहार,डॉ.प्रभाकर देशमुख, पिंपळापुरे अ◌ंप्ड पब्लिशर्स, नागपूर
४] Entrepreneurship development programme and practices, saini J.S. Deep and Deep publications, New Delhi
5] entrepreneurial development concept and practices, sarwate Dilip M, Everest publishing house, Pune 1996.

B.Com. I Year (I Semester)
Paper No. B.C. 1.5
Salesmanship –I

Learning Objectives: This Course is designed to help Students to Learn Qualities and Functions of Salesmanship in a Changing Global Scenario

Unit I: Salesman and Salesmanship:
Meaning, Definition and Importance of Salesmanship, Types of Salesman, Qualities of Good Salesman.

Unit II: Personal Selling and Salesmanship:
Meaning, Nature and Importance of Personal Selling, Personal Selling V/s Salesmanship, objectives of Personal Selling, Process of Personal Selling, Types of Personal Selling.

Unit III: Consumer Behaviour and Salesmanship:
Nature of Consumer Behaviour, *Types of* Customers, Buying Motives, Consumers Buying Process, Customer Relationship Management (CRM).

Unit IV: Sales Presentation:
Principles of Sale Presentation, Sales Presentation Skills, Theories of Selling-"A1DAS" Theory of Selling, "Right Set of Circumstances" Theory of Selling, "Buying Formula" Theory of Selling. "Behavioural Equation" Theory of Selling.

References:

1. D.C. Kapoor- Marketing and Sales Management - S.Chand Publication.
2. Vinod N. Patel & Girish K. Rana - Dynamic Techniques of Sales Management - Oxford Book Company Jaipur.
3. Richard R. Still, Norman A.P. Govoni & Edward W. Cundiff - Sales Management – Prentice Hall of India Pvt Ltd. New Delhi.

B.Com. I Year (I Semester)
Paper No. B.C. 1.5
Office Management - I

Objectives:

1) To familiarize students about concept and Importance of office management, office accommodation and layout
2) To make student aware about office environment and record administration
3) To provide Information about office communication, office supervision and personal management
4) To give students Idea about office report and law to minimize cost in office management

Unit I: **Office Management and Office Accommodation & Layout**: Definition, functions of OM,

Unit II: **Office Environment** *:*
Office lighting, ventilation. Interior decoration. Security, Purpose of record administration. Principles of record administration, Filling System.

Unit III: **Office Communication :**
Process of office communication. Importance, Barriers, Types of office communication.

Unit IV: **Office Supervision and Personal Management :**
functions, Recruitment of personnel. Job description. Sources of recruitment. Job evaluation, Training of employees. Employee welfare. Office supervision. Features, Effective supervision. Supervisor and Ms responsibilities.

Unit V: Office report and Office Cost deduction and savings : Meaning of office report, Types, Qualities of a report, Guiding principles. Forms of report, Presentation of report. Meaning of cost reduction. Types of wasteful expenditure. Technique of coat reduction, Budgetary control, Cost contra.

*** * ***

B.COM. FIRST YEAR

[CBCS PATTERN SYLLABUS] [2016-2017]

Semester- II

Sr.No.	Subjects	Sem II
1	Financial Accounting	II
2	Business Communication	II
3	Business Economics	II
4	Fundamental of Statistics & Maths	II
5	Elective Paper **[Any One]**	
1	Computer for Business & Tally	II
2	Entrepreneurship	II
3	Salesmanship	II
4	Office Management	II

B.Com. I Year (II Semester)

Paper No. : BC 2.1

Financial Accounting II

Course Objective :

To impart skills in accounting for various kinds of business transactions.

Unit 1 **Accounting for Consignment**

Meaning & features of consignment, difference between consignment & sale, types of commission, (Performa), Invoice, invoice price and loading, account sales, valuation of unsold stock, Journal entries and problems.

Unit 2 **Hire Purchase System**

Meaning & features, legal provisions of Hire Purchase Act, Journal entries in the books of Vendee and Vendor, preparation of various accounts in the ledger in the books of hire purchaser and seller and problems.

Unit 3 **Accounts of Co-operative Societies**

Meaning & types of co-operative societies, legal provisions of Maharashtra Co-op Society Act 1960, Consumer's Society & Credit Society, day-to-day accounts, statements of receipts and payments, profit & loss accounts, balance sheet and problems.

Unit 4 **Insurance Claims**

Meaning and types, calculation of claims under loss of stock policy and loss of profit policy only, Application of Average Clauses and problems.

References :

1. A New Approach to Accountancy - Prof. H. R. Kotalwar, Discovery Publishers, Latur.
2. Advanced Accountancy - M. G. Patkar, Dr. C. M, Joshi, Phadke Prakashan Kolhapur.
3. Advanced Accountancy - R. L. Gupta & M. Radhaswamy, Sultan Chand & Sons, New Delhi.
4. Advanced Accountancy - Dr. S. N. Maheshwari, Dr. S. K. Maheshwari, Sultan Chand & Sons, New Delhi.
5. Advanced Accountancy – Dr. M.C. Shukla & Dr. Gerewal
6. Modern Accountancy Volume – A Mukharjee M. Hanif

B.Com. I year (IInd Semester)

Paper No. 2.2
Business Communication – II

Course objectives

i) To Develop Communication Skills of Students
ii) To help in personality development
iii) To improve speaking, learning, and interview skills of students.

Unit IApplication for employment

Contents of application for the employment points to be considered while drafting an application, types of application, The write resume Application on prescribed format, Application format, personal record sheet.

Unit II Effective oral communication

Principles of effective oral communication speech preparation, Guidelines of effective speech, The art of presentation, the essential features of an interview. Distinction between written and oral communication.

Unit III Standard English in Business Writing

Nature of Language, Wards of Meaning, Language Convention, Grammatical Correction, common errors in business writing, sentence & paragraph, Effective Business writing.

Unit IV Modern Tele Communication

Tele conferencing, E-mailing, Faxes, Tele communication, Mobile Phone Conversation, Video conferencing.

Reference Books

1. Business Communication – D.D.Singhal – Ramesh Book Depo. Jaipur
2. Business Communication – Varinder Kumar- Kalyani Publication Ludhiyana
3. Communication Skill- DR P L Pardeshi –Nirali Publication Pune
4. Essential of Business Communication – Rajendrapal – sultan chand & son New Delhi

B.Com. I Year (II Semester)

Paper No. B.C.2.3

Business Economics - II

Learning Objective:

The objective of this course is to acquiant the students with the market structures and theory of distribution are as applicable in business.

Unit 1 **Perfect Competition**

Definition, characteristics of perfect competition, pure v/s perfect competition, equilibrium of firm industry, price and output determination.

Unit 2 **Monopoly**

Meaning, definition, characteristics of monopoly, price discrimination, favorable, circumstances to price discrimination.

Unit 3 **Monopolistic Competition**

Meaning and characteristics of monopolistic competition, product differentiation, price and output determination under monopolistic Competition equilibrium of firm.

Unit 4 **Theory of Distribution**

a) Rent : Rent concept, Recardian Theory and Moden Theory of rent, quasi rent, difference between rent and quasi rent.

b) Wages: Concept of wages, marginal productivity theory and modem theory of wages.

c) Interest; Interest concept, loanable funds theory and liquidity preference theory of interest.

d) Profit: Nature and concept, Gross profit and Net profit, uncertainty bearing theory and innovation theory of profit.

Recommended Books:

1) Ahuja HI,.: Business Economics; S. Chand and Co. New Delhi.
2) D.M. Mithani, O.K. Murthy: Fundamentals ofBusiness Economic Himalaya Publishing House, New Delhi.
3) G.N. Zambre : Business Economics: Pimplapure publishers Nagpur.
4) V.G. Mankar : Business Economics. Himalaya Publishing house, Bombay, Delhi, Nagpur.
5) जी.एन. झांबरे, डॉ.मेघे,व्यावसायिक अर्थशास्त्र पिंपळापुरे ॲन्ड कं. पब्लीशर्स नागपूर

B.Com. I Year (II Semester)

Paper No. BC 2.4
Fundamental of Statistics & Maths - II

Course Objective

Objective of this course is to provide foundation of quantitative techniques applied in solving business problems.

Unit 1 **Determinants & Matrices:**

Definition of a Determinant, Determinant of a square, Matrix, Determinants of order two and three, definition of matrix, Types of Matrices, Addition & Subtraction of Matrices, Multiplication of Matrices, Numerical Problems.

Unit 2 **Permutations & Combinations**

Permutation of different things, Permutation of things not all different, restricted combination of things not all different.

Unit 3 **Probability**

Introduction, trial, sample space, events, classical definition of Probability, Addition and Multiplication laws of Probability (without proof), simple problems on addition and multiplication of probability.

Unit 4 Simple & Compound Interest, Commission, Brokerage, Discount, Numerical Problems.

Unit 5 **Index Numbers**

Need & meaning of Index Numbers, Problems involved, in Instruction of index numbers, Price & Quality index numbers (Unweighted), Laspeyre's, Paasche's and Fisher's Index Numbers, Numerical Examples.

References:

1. Business Mathematics - V. K. Kapoor (S. Chand & Sons)
2. Business Mathematics - Bari
3. Fundamentals of Statistics - S. C. Gupta
4. Statistical Methods - S. D. Gupta

B.Com. I Year (II Semester)

Paper No. BC 2.5

Computer for Business & Tally II

Part A

1) Basic Accounting
2) Business organization
3) Accounting on computer
4) Tally Fundamental
5) Features of Tally
6) Processing transaction in Tally
7) Generating and printing of accounting report
8) Tally vouchers and types of vouchers

PART-B

1) Introduction to Trading Accounting
2) Purchases and sales
3) Getting Functional with Tally
4) Display and Report
5) Tally Audit

Note:
1) For this paper every college has essential the computer lab for practical.
2) Every five student must have one computer system.
3) Practical batch will be for 20 students.
4) Practical marks will be 10 out of 50 marks

Reference Books :

1. V. Rajaraman (PHI) Fundamentals of computer- Prentice Hall of India Pvt Ltd Delhi.
2. Sander D. Megraw Hill- Computer Concepts and Application
3. Introducation of Computer – Prof. Narayan Thorat – Vidhy Prakashan Nagpur
4. Computer and commerce – Roher Hunt & John Shelley – Prentic Hall of India
5. Computer Network – Andrew S.Tanen
6. Implementing Tally 9 – A K Nadhani – BPB Publication- New Delhi

B.Com. I Year (II Semester)
Paper No. BC2.5
Entrepreneurship - II

The objective of the course is to make aware and to provide entrepreneurship ability and skills to the

Unit I Theories of entrepreneurship development

- Risk bearing theory of knight
- Innovation theory of Schumpeter
- Regional climate theory
- Entrepreneurial motivation theory institutional support to entrepreneurs-

Unit II MSI in India

Introduction Evoluation of the concept of small scale industry, nature, importance, characteristics and objectives of SSI, policy support for SSI problems of SSI, remedial measures.

Unit III Project Identification

- Meaning and Definition
- Project classification, project life cycle,
- Project identification, information sources
- Information centres in India

Unit IV Project Report

- Meaning
- Components of project report
- Contents, importance
- Reasons for failure of project report
- Model project report

Reference Books:

1] Entrepreneurship development, E gordan and K Natarajan, Himalaya Publishing house, Mumbai

2] Fundamentals of entrepreneurship, G.S. Sudha, Ramesh Book depo. Jaipur

3] उद्योजकता विकास संकल्पना आणि व्यवहार,डॉ.प्रभाकर देशमुख, पिंपळापुरे अ ंड पब्लिशर्स, नागपूर

४] Entrepreneurship development programme and practices, saini J.S. Deep and Deep publications, New Delhi

5] entrepreneurial development concept and practices, sarwate Dilip M, Everest publishing house, Pune 1996.

B.Com. I Year (II Semester)
Paper No. BC2.5
Salesmanship - II

Learning Objectives: This Course is designed to help Students to Learn Qualities and Functions of Salesmanship in a Changing Global Scenario

Unit I: **Sales Promotion:**
Meaning of Sales Promotion, Methods of Sales Promotion -Personal Selling., Advertising, promotional *Mix* and Publicity

Unit II: **Sales Organisation:**
Setting up a Sales Organisation, Basic Types of sales Organisation Structure, Centralization V/s Decentralization in Safes Force Organisation.

Unit III: **Sales Forecasting and Budgeting:**
Sales Forecasting - Meaning und Scope, Methods of Forecasting, Budgeting -Sales Budge - as a Tool and Technique

Unit IV: **Sales Management:**
Meaning, Definition of Safes Management and Basic Elements / Functions of Sales Management - Planning, orgnising, Coordinating, Controlling and Motivating.

Unit V: **Sales Force Management:**
Recruitment, Selection, Training, Motivation. Compensation and Performance Appraisal of Sales Personnel

References:

1. D.C. Kapoor - Marketing and Sales Management - S.Chand Publication.
2. Vinod N. Patel & *G*irish K. Rana • Dynamic Techniques of Sales Management - Oxford Book Company Jaipur.
3. Richard R. Still, Norman A.P. Govoni & Edward W. Cundiff - Sales Management - Prentice Hall of India PVT LTD NEW Delhi.

B.Com. I Year (II Semester)

Paper No. BC2.5

Office Management – II

Objectives:

1. To male Students Aware about Group Insurance
2. To familiarize Students about Online Office Activities
3. To Impart the Knowledge of Office Records & Filling Systems among the Students.
4. To enhance the knowledge about Statistical Practices among the Students.

UNIT – I GROUP INSURANCE

Group Life Insurance, Group Annuities, Franchise Life Insurance, Group Insurance In India, ESI Act [Employees' State Insurance Act]

UNIT - II ONLINE OFFICE

Office System, Electronic Data Processing, Word Processing, Letters, Memos And Reports, Mail & Information Distribution, Recruitment Processing.

UNIT – III OFFICE RECORDS AND FILLING MANAGEMENT

Office Records- Principles Of Records Keeping, Kinds Of Records, Filling- Definition Of Filling, Essentials Of An Ideal Filling System, New Methods Of Filling.

UNIT – IV STATISTICAL DATA

Need For Statistical Data In The Office, Sources Of Data, Limitation Of Data, Methods Of Collecting Data, Tabulation Of Data, Presentation Of Data.

Recommended Books:-

1. 'Office Organisation & Management', By S.P. Arora, Vikas Punlishing House Pvt. Ltd. New Delhi.
2. 'Office Management', By R.K. Chopda, Himalaya Publishing House, Mumbai.
3. 'Office Organisation and Management', By M.E. Thukaram Rao, Atlantic Publishers and Distributors, New Delhi.
4. 'Office Management and Control' By George R. Terry and John J. Stallard, Richard D. Irwin, INC., Homewood, llinois, D.B. Taraporevala Sons & Co.Pvt. Ltd. 210, Dr Dadabhai Navroji Road, Mumbai 400 001
5. 'Office Management' Singh, Batra and Kalra, Kalyani Publishers, New Delhi.
6. 'Office Management and Commercial Correspondence' By R.C. Bhatiya, Sterling Publishers Pvt. Ltd. New Delhi.

* * *

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपूरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
ACADEMIC (1-BOARD OF STUDIES) SECTION
Phone: (02462) 229542
Fax : (02462) 229574
Website: www.srtmun.ac.in
E-mail: bos@srtmun.ac.in

वाणिज्य व व्यवस्थापन विद्याशाखेंतर्गत येणाऱ्या संलग्नित महाविद्यालयात पदवी स्तरावरील सी.बी.सी.एस पॅटर्न नुसारचा **B. Com. III year** चा अभ्यासक्रम शैक्षणिक वर्ष २०२१ – २२ पासून लागु करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, वाणिज्य व व्यवस्थापन विद्याशाखेच्या दिनांक २९/०५/२०२१ रोजीच्या बैठकीतील शिफारशीनुसार व मा. विद्यापरिषदेच्या दिनांक १२/०६/२०२१ रोजी संपन्न झालेल्या बैठकीतील विषय क्र.२८/५१–२०२१, च्या ठरावानुसार वाणिज्य व व्यवस्थापन विद्याशाखेतील **B. Com. III year** या अभ्यासक्रमास शैक्षणिक वर्ष २०२१–२२ पासून लागु करण्यास मान्यता देण्यात आली आहे.

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहे. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी/वाणिज्य व व्यवस्थापन – २०२१–२२/८०
दिनांक : २३.०७.२०२१.

स्वाक्षरित/–
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. अधिष्ठाता, वाणिज्या व व्यवस्थापन विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. सहयोगी अधिष्ठाता, वाणिज्या व व्यवस्थापन विद्याशाखा, प्रस्तुत विद्यापीठ.
३) कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
४) मा. संचालक, परीक्षा व मुल्यमापन मंडळ, यांचे कार्यालय, प्रस्तुत विद्यापीठ.
५) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ यांना देवून कळविण्यात येते की, सदरील परिपत्रक विद्यापीठाच्या संकेत स्थळावर प्रकाशित करावे.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED,

Vishnupuri, Nanded-431606

B.Com.-III Year (Semester V)

Choice Based Credit System (C.B.C.S) Syllabus

W.e.f. 2021-22

Paper No.	Name of the Paper	Lecture/ Week	Total Periods	Continuous Assessment (CA)	End Of Semester Exam (ESE)	Total Marks	Total Credit
BC.5.1	Advanced Accounting-I	4	54	25	75	100	4
BC.5.2	Management Accounting-I	4	54	25	75	100	4
BC.5.3	Auditing-I	4	54	25	75	100	4
	Opt Any one Group as Discipline Specific Elective of the following						
	Group A- Taxation						
BC.5.4A	Income Tax Law & Practices	4	54	25	75	100	4
BC.5.5A	Training and Field Work	4	54	100	--	100	4
	Group B- Management						
BC.5.4B	Human Resource Management	4	54	25	75	100	4
BC.5.5B	Training and Field Work	4	54	100	--	100	4
	Group C - UGC Vocational Course-Tax Procedure & Practice (Only for Approved College)						
BC.5.4C	Income Tax Procedure & Practice(TPP-IX)	4	54	25	75	100	4
BC.5.5C	Training and Field Work	4	54	100	--	100	4
	Group D- UGC Vocational Course-Foreign Trade Procedure & Practice (Only for Approved College)						
BC.5.4D	India's Foreign Trade (FT-IX)	4	54	25	75	100	4
BC.5.5D	Training and Field Work	4	54	100	--	100	4
	Group E- UGC Vocational Course-Computer Application (Only for Approved College)						
BC.5.4E	Visual Basic.Net (CA-IX)	4	54	25	75	100	4

BC.5.5E	Training and Field Work	4	54	100	--	100	4
	Opt Any one Subject as Generic Elective of the following						
GE-I.1	Indian Economy-I	4	54	25	75	100	4
GE-I.2	Labour Laws & industrial Laws-I	4	54	25	75	100	4
GE-I.3	Banking and Finance	4	54	25	75	100	4
	Opt Any one Skill Enhancement Course – III (SEC-III)						
SEC-III.1	Self-Employment-I	3	45	25	25	50	2
SEC-III.2	Tax Procedure & Practice	3	45	25	25	50	2
SEC-III.3	Intellectual Property Right-I	3	45	25	25	50	2
SEC-III.4	Accounting & Tally	3	45	25	25	50	2
SEC-III.5	Financial Literacy skills	3	45	25	25	50	2
Compulsory Paper for all Disciplines (Streams)							
	Environmental Studies	4	54	25	75	100	4

Examination Pattern

Continuous Assessment

1) Core and Elective Subjects (CA)-25 Marks

1. Two Class Test of 10 Marks Each

2. Assignment / Tutorial / Seminar Presentation for 5 Marks in the particular Subject

2) Skill Enhancement Course Subjects(CA)-25 Marks

1. Two Test of 05 Marks Each

2. Assignment / Tutorial / Seminar Presentation for 15 Marks in the particular Subject

Continuous Assessment of SEC be assessed in particular semester by the subject teacher - 25 Marks

End of Semester Exam

1) Core and Elective Subjects (ESE)-75 Marks

Question No. 1 is Compulsory on any topic for 20 Marks

Question No. 2 to 4 are alternative type questions for 15 Marks each

Question No. 5 is short note any two out of Four for 10 Marks

2) Skill Enhancement Course Subjects(ESE)-25 Marks

End of Semester of SEC should be evaluated annually. Semester V and Semester VI are to be assessed by the external examiner at the end of VI semester- 25 Marks each semester.

Training and Field Work(CA)-100 MarksFor Vth Semester

Under Training and Field Work each and every student has to complete one-month training and field work under the guidance of concerned subject teacher and should submit Training Completion Certificate from the concerned firm or Field work completion certificate from the concerned subject teacher. The concerned subject teacher has to assess the performance of Student's Training and Field Work on continuous basis throughout the Vth Semester for 100 Marks.

Project Work(CA)-50 Marks (ESE)-50 MarksForVIth Semester

1. Project Work Book Writing based on the completed training and field work under the guidance of concerned subject teacherfor 50 Marks **(Continuous Assessment)** by the concerned subject teacher.
2. Viva-Voce Examination on Project Work is to be conducted by the external examiner for 50 Marks**(End of Semester Exam)**

Environmental Studies

Environmental Studies subject evaluated as guidelines as per Interdisciplinary study board

B. Com. Semester Vth (CBCS Pattern)
BC.5.1 Advanced Accounting – I

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objectives: -The objective of the course is to equip the students with the ability to analysis interpret and use accounting information in managerial decision making and auditing.

Utility: Student can acquire knowledge of advance level of accounting for professional

Prerequisite: Basic knowledge of financial accounting

UNIT I: Government Accounting **11**

Introduction to Government Accounting, Concept, Features and Objectives, types of Government Accounting, Consolidated funds, Contingency funds, Public Accounts, Government accounts at all levels like federal, State and local. Functions of government accounting, provide quantitative information in financial nature, make more and efficient decision for public services.

UNIT II:Hotel Business Accounting **11**

Meaning, Importance of Hotel Business Accounting, Preparation of Final Accounts of Hotel Business.

UNIT III:Underwriting of Shares and Debentures **11**

Basic Concepts, Underwriting Commission, Preparation of Underwriters Account.

UNIT IV:Branch Accounting **11**

Introduction, Meaning of Branch Account, Types of Branches, Preparation of Branch Accounts as per Debtors system and Stock and Debtors system only.

UNIT V:Agriculture Accounting **10**

Introduction, Meaning, Importance of Agriculture Accounting, Preparation of Agriculture Account. Problems on Farm Accounting.

Reference:

1. Advanced Accounting (S. N. Maheshwari)
2. Advanced Accounting Vol. 1, 2 (Mr. Hanif& A. Mukharjee, Tata McGraw Hill Publishing Company Ltd.)
3. Accountancy (H. R. Kotalwar) Discovery Publication, Latur
4. Advanced Accounting Vol. I (R.S.N. Pillani, Bhagwati& S. Uma- S. Chand Publication)
5. Advanced Accounting (C.A. Raj K Agrawal): SahityaBhavanPublicaiton,Agra
6. Company Accounts & Auditing Practices (SangeetKedia's)
7. Advanced Accounting-I – Dr. H. W.Kulkarni, Dr.S.S.Agrwal, Dr. Pankaj Aboti
8. Advanced Accounting – Dr.Tanshetti R.V., Dr.Tammalwar A.N.

B. Com. Semester Vth (CBCS Pattern)

BC.5.2 Management Accounting – I

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objectives: - The Objectives of this paper is to equip the students with the ability to analysis, interpret and use accounting information in Management accounting information in managerial decision making. The student is expected to have a good working knowledge of the subject. This paper provides the students an understanding of the application of accounting techniques for management.

Utility: Students can take managerial decisions regarding finance of the business

Prerequisite: Basic knowledge of accounting and mathematics

UNIT I: Introduction to Management Accounting **11**

Meaning - Nature - Scope and Functions of Management Accounting - Role of Management Accounting in Decision Making - Management Accounting and Financial Accounting

UNIT II: Fund Flow Statement **11**

Introduction- Meaning, Importance and Limitations of Fund Flow Statement- Preparation of Statement of Changes in Working Capital and Fund Flow Statement.

UNIT III: Cash Flow Statement **11**

Meaning, Significance and Limitations of Cash Flow Statement, Preparation of Cash Flow Statement with reference to Accounting Standard No .3 (AS-3) (Indirect method only)

UNIT IV: Marginal Costing and Break-Even Analysis **11**

Meaning, Advantages and Disadvantages of Marginal Costing, Cost Volume Profit Analysis, Break Even Analysis, Profit Volume Ration, Margin of Safety and Maintaining the Desire Level of Profit.

UNIT V: Budget and Budgetary Control **10**

Meaning, Objective, Advantages and Limitations of Budget and Budgetary Control, Preparation of Production Budget, Sales Budget

Reference:

Management Accounting by Manmohan Goyal, SahityaBhavan Publication, Agra Management Accounting by R.K. Sharma & S.K. Gupta, Kalyan Publication, Ludhiyana.

Management Accounting by Khan M.Y. & Jain R. K. Tata McGrow Hill, New Delhi.

Management Accounting by N. Vinayak& I.B. Singh, Himalaya Publication House, Delhi

Management Accounting by R.S.N. Pillai & V. Bhagvati, S.Chand Publication, Delhi Management Accounting by Dr. S.N. Mahaeshwari, Sultan Chand & Sons, Delhi.

Management Accounting by Dr. H.W. Kulkarni, Dr. V.K. Bhosle, Dr. S.M. Kolhe, ArunaPrakashan, Latur.

Management Accounting by Dr.S.S.Agrawal&Dr. S.R Agrawal ChinmayPrakashan Aurangabad

Advanced Accounting – Dr.Tanshette R.V., Dr.Tammalwar A.N.

B. Com. Semester Vth (CBCS Pattern)

BC.5.3Auditing-I

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective:

The Objective of the course is to provide the candidates with sound Knowledge of the important provisions of the Audit and company law and their Applications in practices.

Utility: Regarding minute study to find out the fraud and errors in accounting

Prerequisite: Theoretical and Practical knowledge of accountancy

UNIT I: Introduction to Auditing **11**

Definition of Auditing, Objectives of Auditing - Primary and Secondary, Expression of Opinion, Inherent Limitations of Audit, , Principles of Audit, Types of Audit, Advantages of Independent Audit, Auditing Vs Accounting, Auditing Vs Investigation.

UNIT II: Company Auditor **11**

Eligibility and Appointment, Qualifications, Disqualifications, Rotation and Removal of Company Auditor, Powers and Duties and responsibility of Company Auditor.

UNIT III: Audit Planning, Procedures and Documentation **11**

Meaning, Objectives, Factors to be Considered, Sources of Obtaining Information, Discussions with Client, Overall Audit Plan, Audit Programme Meaning, Factors to be Considered, Advantages, Disadvantages, Audit Working papers, Audit Notebook.

UNIT IV: Detection and Prevention of Fraud **11**

Errors-meaning, Types of Errors -Commission, Omission, Principle and Compensating, Types of Frauds,

Auditor's Duties and Responsibilities in Respect of Fraud & errors.

UNIT V: Audit Evidence **10**

Introduction, Evidence for Assertions, Formation of Opinion, Type of Evidence, Audit Techniques of Collecting Audit Evidence, Audit Sampling, Types of Sampling

Reference Books

- Contemporary Auditing by Kamal Gupta, Tata Mc-Graw Hill, New Delhi
- A Hand-Book of Practical Auditing by B.N. Tandon, S. Chand and Company, New Delhi
- Fundamentals of Auditing by Kamal Gupta and Ashok Arora, Tata McGraw Hill, New Delhi
- Auditing: Principles and Practice by Ravinder Kumar, Virender Sharma, PHI Learning Pvt. Ltd., New Delhi
- Auditing and Assurance for CA IPCC by Sanjib Kumar Basu, Pearson Education, New Delhi
- Contemporary Auditing by Kamal Gupta, McGrow Hill Education Pvt. Ltd., New Delhi
- Fundamentals of Auditing by Kamal Arora and Ashok Gupta, Tata McGraw Hill, New Delhi
- Auditing: Principles and Practice by N. K. Jha, CA Purva Jain, Himalaya Publishing Pvt. Ltd., Mumbai

- Book Keeping and Accountancy by Dr. S.V. Dongare, Sankalp Publication, Latur.

'Group-A'

Taxation

B. Com. Semester Vth (CBCS Pattern)

BC.5.4A- Income Tax Law & Practices

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective: The Objective of the course is to provide the candidates with sound knowledge of the important provisions of the Income Tax law and their applications in solving problems on computation of Total Income and Tax Liability.
Utility: To get oneself acquaint with the direct taxes and individual income.
Prerequisite: one should possess the knowledge of basic terminologies in respect of Income Tax act and Computer ideologies.

Course Contents

Unit I: Deduction from Gross Total Income of An Individual and A Hindu Undivided Family 11
Deduction u/s 80C- in respect of sums paid or deposited in LIP, RPF, PPF, NSC,VIIIth Issue, Home loan Instalments and Tuition Fees. Deduction u/s 80D- inrespect of Medical Insurance premium, Deduction u/s 80DD- in respect of medical treatment of disabled dependant. Deduction u/s 80E- in respect of interest on higher education loan. Deduction u/s 80U- in respect of totally blind or physically handicapped.

Unit II: Assessment of Partnership Firm 11
Computation of GTI and Total Income of partnership firm considering the deduction U/S 80 regarding Partnership firm.

Unit III: Assessment of Co-operative Societies 11
Computation of GTI and Total Income of Co-operative Societies.

Unit IV: Assessment of Association of Persons or Body of Individuals 11
Computation of GTI of Association of Persons (AOP) or Body of Individuals (BOI)

Unit V: Provisions concerning tax deducted at source 10
Basic Aspects of Deduction of Taxes at Source
Sec: 192 – TDS on Salary, Sec: 194A – TDS on Interest, Sec: 194C – TDS on Contractor, Sec: 194H – TDS on Commission, Sec: 194I – TDS on Rent
Note: - The Provisions of the Income Tax Act as applicable to assessment year at the Commencement of the academic year shall be studied for the annual and the supplementary examination. **Suggested Reading:**

1. Dr H C Meharotra and Dr S P Goyal- Income Tax Law &Accounts:SahityaBhavan Publications.
2. Direct Taxes Law & Practice by V.K. Singhania - Taxman
3. Systematic Approach to Direct Tax by Ahuja & Gupta - Bharat Law House
4. Income Tax Ready Recknoner by Dr .V.K. Singhania - Taxman Direct Tax Laws by T.N. Manoharan - Snow White.

'Group-B'

Management

B.Com. Semester Vth (CBCS Pattern)

BC.5.4B- Human Resource Management

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Course Objectives: -

Learning Objectives of the course is to gain the holistic knowledge of human resource engaged in the business world. To understand the nature and applicability of the major HR Practice

Utility: Regarding the major living aspect of business i.e. human resources, helps to know the recruitment and other basic needs.

Prerequisite: basic management terminologies and non-financial business activities.

Unit I: An Introduction To Human Resource Management **11**

Concept & nature of HRM, Evolution of HRM, objectives & Scope of HRM, Functions of HRM, Importance of HRM, Role & Qualities of HR manager

Unit II: Human Resource Planning **11**

Meaning, HR forecasting & Procurement, Advantages of HR Planning, Factors Influencing HR Planning, Job design & analysis, job description & Specification.

Unit III: Human Resource Recruitment & Selection **11**

Meaning, Definition, purpose and importance of HR Recruitment sources & Techniques of HR Recruitment, factors affecting HR recruitment, selection process, Interviews: objectives & Types, nature of Placement & Induction.

Unit IV: Wages & Salary Administration **11**

Concept & objectives of wages & salary administration, Principles of wages & salary administration, components of remuneration, Theories of wages:- (Subsistence Theory, Wage fund theory, Bargaining theory, comparative advantage theory) factors affecting wage & salary level.

Unit V: Performance Appraisal **10**

Concept & Objectives of performance appraisal, process of performance appraisal, methods of performance appraisal, benefits of performance of performance appraisal, Barriers to effective performance appraisal

Reference books:-

1) Human Resource Management : P. Subbarao
2) Human Resource Management: K. Ashwathappa
3) Human Resource Management : L.M. Prasad
4) Emerging Human resource Management : S.K. Bhatia, New Delhi
5) Human Resource Management – Dr.S.K.Khillare,N.B.Kale,V.P.Shelke,Aruna Publication Latur

'Group-C'

UGC Vocational Course-Tax Procedure & Practice

B.Com. Semester Vth (CBCS Pattern)

BC.5.4C- Income Tax Procedure & Practice (TPP-IX)

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective: The Objective of the course is to provide the candidates with sound knowledge of the important provisions of the Income Tax law and their applications in solving problems on computation of Total Income and Tax Liability.
Utility: To get oneself acquaint with the direct taxes and computation of Total Income and Tax Liability.
Prerequisite: one should possess the knowledge of basic terminologies in respect of Income Tax act and Computer ideologies.

Unit I: Set-off and Carry Forward of Losses:
Meaning of Set off of Losses, Set off under the same head and under the other heads, set off of capital losses, set off of business losses. Meaning of Carry forward of losses, Carry forward of capital losses, Carry forward of business losses and losses under house property income. Simple problems on set off and carry forward of losses of an individual.

Unit II: Assessment of Individual
Tax Rates in respect of individuals, Computation of Total Income, Deductions under Section 80C, 80D, 80DD, 80E and 80TTA, Computation of Tax Liability for an Individual

Unit III: Assessment of Hindu Undivided Family:
Tax Rates in respect of HUF , Computation of Total Income, Deductions under Section 80C, 80D, 80DD, 80E and 80TTA, Computation of Tax Liability for HUF

Unit IV: Assessment of Firms and Company:
Tax Rates in respect of Firms And Companies, Computation of Total Income, Deduction u/s 80G, Deduction u/s 80IB,Deduction u/s 80U, Computation of Tax Liability of Firms and Companies.

Unit IV: Advance Tax, Tax Deducted At Source and Tax Collection at Source
Concept of Advance Tax, Advance Tax Rate Corporate Assessee, Advance Tax Rate Non corporateAssesse, Computation of Advance Tax Liability, Concept of TDS and TCS, TDS on Salary, TDS on Interest other than Securities, TDS on Rent TDS on Contractor, Difference between TDS and TCS.

Reference Books :
1. Dr H C Meharotra and Dr S P Goyal- Income Tax Law & Accounts: Sahitya Bhavan Publications.
2. Dr.Vinod K Singhania: Taxman publications.
3. T.N.Manoharan: Snow White.
4. www.icai.ac.in

'Group D'

UGC Vocational Course-Foreign Trade Practices & Procedures

Semester Vth (CBCS Pattern)

BC.5.4D- India's Foreign Trade (FT-IX)

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective:-To make the students aware of the shipping and insurance practices and procedures which constitute the essential services for the operation of foreign trade.

Utility: Export vs. Import comparison and Balance of Payment.

Prerequisite: Basic Insurance terminologies specially general insurance plus geographical study of Countries.

Objective: To acquaint the students about India's Foreign Trade and Policy.

Unit I: Balance of Payment (10Periods)

Meaning of Balance of Trade & Balance of Payment- Current and Capital account, Components of India's BOP- Causes of Disequilibrium in BOP and measures for correction

Unit -II: Foreign Exchange Rates: (12Periods)

Meaning, Types, Importance and Determination of Foreign Exchange Rates. Fluctuations in the Rate of Exchange, International Monetary Reforms, Problems of International Liquidity, Special Drawing Rights.

Unit -III: Multinational Corporation: (10Periods)

Definition, MNCs stages in internationalization of a firm, characteristics and classification of MNCs, Merits and Demerits of MNCs, MNCs and International Business, Export Promotion Councils.

Unit–IV: India's Exim Policy: (10Periods)

India's Import policy-objectives, recent changes and import substitutions, India's Export policy- Highlights of current EXIM policy – Procedure for Export & Import

Unit -V: Institutional Setup for Export Promotion: (12Periods)

Need for Export Assistance, Steps taken for providing Export Production, Free trade Area/Zone, Facilities available, 100% Export Processing Zones, Director General of Foreign Trade – Facilities to Export Houses, facilities to Trading Houses.

Reference Books:

1) Export Manual and Documentation: Nabhi's
2) International Marketing Management: Varshney and Battacharya
3) International Economics: C.P. Kindelberger
4) Administrative Reports of the Ministry of Commerce, GOI
5) Annual Economic Surveys
6) Import and Export Policy 1992-1997

'Group E'

UGC Vocational Course-Computer Application

B. Com. Semester Vth (CBCS Pattern)

BC.5.4E- Visual Basic.Net (CA-IX)

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Objective of the paper;

- To develop object oriented concept.
- Design/develop programs with GUI interfaces
- Code programs and develop interface using Visual Basic .Net
- To Develop the small software and Program and Increase the logical Concept of Students

Scheme of marking;

- University written exam- 75 marks
- Internal exam based on assignments, seminars and participation in other activities - 25marks

Course inputs;

1 Introduction **10 Periods**

Introduction, Installation Steps of VB.NET, IDECreating Simple Computer Application.

2 Net Framework **10 Periods**

CLR. Variables, Constant, Operators, Data types

3 Control Statements & Looping Statement **12 Periods**

If statement, If then else statement, Nested if…then else statement
What is loop, Types of loop, For… next, Do…loop, While…end while

4 Controls and Dialog boxes **12 Periods**

Text Box, Label, Radio Button, Check Box, List Box, Combo Box.
Image Control, Creating menus, Context menus, The Message dialog box,
The open dialog box, The save dialog box The font dialog box, The color dialog box

5 ODBC Control **10 Periods**

Introduction to ODBC, Advantages & Disadvantages of ODBS Control, Connection to Database, Insert, Update, Delete Data in to database

Reference Book:

1) Beginning VB.Net 2003/2008, Willis
2) VB Mastering
3) VB Practical

'Generic Elective' (Any One)

B. Com. Semester Vth (CBCS Pattern)

GE-I.1 Indian Economy-I

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Objective

To acquaint the student with the development of knowledge about Indian Economy and various system of control the Economic crises in Indian Economy.

Utility: To be familiar with the Indian Economic system.

Prerequisite: Basics of Business Economics.

Unit I: Introduction to Indian Economy **No. of Lectures 11**

Meaning and Underdeveloped Economy, Basics Characteristics of Indian Economy, Major Issues of Development, The Determinants of Economic Development.

Unit II: National Income of India **No. of Lectures 11**

National Income Estimates in India, Trades in National Income, Growth and Structure, Limitations of National Income, Estimation in India.

Unit III Infrastructure in Indian Economy

Meaning and Significance of infrastructure,

- Energy- Sources of energy, importance of energy in economic development, development of energy sector in India, the energy crisis in India and its remedies.
- Transportation- Road transport- significance of road transport in economic development, development of roads, problems and remedies in road development, National Highway Development Plan
- Railway transport- significance of rail transport, development of railways in India, problems and remedies of railway transport.
- Water transport- Development of water transport in India, problems and remedies of water transport system.
- Air transport- Significance of air transport, development of air transport, problems and remedies of air transport.

Unit IV Agriculture sector in India

Significance of agriculture in Indian economy, Need and types of agricultural credit, sources of agricultural credit in India, problems in agricultural credit, farmers bankruptcy, reasons for farmers bankruptcy and its side effects, farmers suicides in India-Reasons and Remedies

Unit V: Infrastructure in Indian Economy **No. of Lectures 10**

Energy and Power, Transport System in India and Economic Development, Communication System in India, Urban Infrastructure

Reference Books

1. Indian Economy – by MisraPuri
2. Indian Economy- by DattRuddar, KPM Sundharam

'Generic Elective' (Any One)
B. Com. Semester Vth (CBCS Pattern)
GE-I.2 Labour Laws and Industrial Laws-I

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective:
The objective of the course is to provide the candidates with sound Knowledge of the important provisions of the Labour laws and Industrial laws and their applications in practice.
Utility: To introduce and apply laws regarding business and implement them in the business.
Prerequisite: Basics of Law and fundamental acts.

Unit I: Employee's Provident Fund & Miscellaneous Provisions Act, 1952 11

Introduction, Applicability of The Act, Employees Covered Under The Scheme, Employees Provident Fund Scheme, Employees Pension Scheme, Employees Deposit Linked Insurance Scheme

Unit II: Payment of Bonus Act, 1965 11

Introduction, Objects And Scope of The Payment of Bonus Act, 1965, Applicability of Act, Set-On And Set-Off Provisions

Unit III: Payment of Gratuity Act, 1972 11

Introduction, Applicability Of The Act, Miscellaneous Provisions, Partial Forfeiture of Gratuity And Total Forfeiture of Gratuity

Unit IV: Employees State Insurance Act, 1948 11

Introduction, Benefits, Applicability, Meaning of Employer And Employee, Contribution To ESIC Fund

Unit V: Minimum Wages Act, 1948 10

Introduction, Philosophy Behind The Enactment, Definitions, Provision, Procedure For Fixing And Revising Minimum Wages (Sec.5)

References:
1) Industrial , labour & General law - Sangeetkedia's
2) Labour & Industrial law - P. K. Padhi, PHI Learning Pvt. Ltd.
3) Labour Laws – Ajit Prakashan's
4) Labour & Industrial laws – Ravi Shinde, Asian law House
5) Industrial & labour law - CA Shivangi Agrawal, Study At Home
6) Labour & Industrial Law - Mishra and Puri.

'Generic Elective' (Any One)
B. Com. Semester Vth (CBCS Pattern)
GE-I.3 Banking and Finance-I

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning objectives:

1. To gain the knowledge of banking and finance.
2. To understand the structure of Indian Banking System.
3. To gain the knowledge about banking operations and procedures.

Course Outcomes:

Students will be able to understand the structure of banking and the functions of a banker.

Utility:

It is very useful in understanding various banking functions and the operations and procedures in banking in general and from banking exams point of view in particular

Course Contents:

Chapter 1: Introduction to Banking

Meaning, concept and definitions of Bank, Origin of banking, Brief history of banking in India, Structure of Indian Banking System, Importance and Role of banking in economic development, Reserve Bank of India as a central bank.

Chapter 2: Indian Commercial Banks

Meaning and definition of commercial bank, features of commercial banks, major functions of commercial banks, Indian commercial banks- Public sector and private sector banks in India, Bank Nationalization of 1969 & 1980, Major private sector banks in India.

Chapter 3: Co-operative Banks in India

Meaning, concept and definition of Cooperation, Brief history of Co-operation in India, Necessity of Co-operative banks, Functions of co-operative banks, three tier structure of co-operative banking in India and their functions- State Co-operative Bank, District Central Co-operative Banks, Primary Agricultural Credit Co-op. Societies

Chapter 4: Development Banks in India

Meaning, concept, need and objectives of development banks,

Functions of following development banks,

- Industrial Development Banks- IFCI, SIDBI, IDBI
- Agricultural Development Banks- NABARD, Land Development Banks
- Housing Development Banks- National Housing Bank (NHB)

Chapter 5: Banking Operations and Procedures

Types and benefits of accounts in banks- Savings A/c and Current A/c, Types of deposits- Saving Deposit, Fixed Deposit, Recurring Deposit, Types of Loans- Personal loan, Commercial loan, Home loan, Cash Credit. Banking procedures- New Account Opening, KYC, Different forms in Banks- NEFT, RTGS, Demand Draft, Bankers Cheque.

Reference Books:

1. S. Natrajan and Parmeswaran, Indian Banking, S. Chand Publication, New Delhi
2. Mukund Mahajan, Indian Banking System, NiraliPrakashan, Pune
3. Gordan and Natrajan, Financial Markets and Services, Himalay Publication, New Delhi
4. Khan, M.Y., Indian Markets and Financial Institutions, Tata-McGraw Hill, Publication, New Delhi
5. Bharathi V. Pathak, Indian Financial System, Pearson Publication, Noida, Uttar Pradesh
6. डॉ. भारती कांछळे, डॉ. रमाकांत घडगे आणि डॉ. बाबाजी कांबळे, भारतीय बँकिंग व्यवसाय, [illegible] कळंब, सरपर

'Skill Enhancement Course – III' (SEC-III) (Any One)
B. Com. Semester Vth (CBCS Pattern)
SEC-III.1 Self Employment-I

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Objective: To develop and adopt the various skills in the students for develop their career and take the self-employment skills.

Utility: "self-employment is best employment" to know the advantages of it.
Prerequisite: Employment opportunities and other relevant aspects.

UNIT I: Introduction **10**

Introduction, Meaning and Types of Unemployment, Caused and Remedies on unemployment, Meaning and Characteristic of Self Employment, Meaning and Characteristic of Skills.

UNIT II: Entrepreneurship for Self-Employment **10**

Need & scope of entrepreneurship development, Different approaches of entrepreneurship for self-employment, Entrepreneurship & skill development, Developing skilled manpower.

UNIT III: Entrepreneurial Competencies for Self-Employment **12**

Motivating youth for self-employment as career option, Understanding behavioural competencies for self-employment, Developing behavioural competencies for self-employment.

UNIT IV: Government of India Support for Entrepreneurship **13**

Overview of Startup India, Make in India, Atal Innovation Mission (AIM), Support to Training and Employment programme for Women (STEP), Jan Dhan-adhaar- Mobile (JAM), Digital India, Pradhan MantriKaushalVikasYojana (PMKVY), National Skill Development Mission

Reference Books:

1. Skill for Employability-By Rosalie Marsh
2. Fundamental of Entrepreneurship- By Sanjay Gupta
3. Skill Development & Entrepreneurship in India- By Rameshwari Pandya
4. Opportunities for Women Entrepreneurship- By NIIR Board of Consultant and Engineers.
5. Report on Skill for All New Approaches to Skilling India By: FICCI Skill Development Forum.

'Skill Enhancement Course – III' (SEC-III) (AnyOne)
B. Com. Semester Vth (CBCS Pattern)
SEC-III.2 Tax Procedure and Practice

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Learning Objectives :
To develop the skill among the students to compute taxable income and tax liability of the assesse.
Utility: To get oneself acquaint with the tax system.
Prerequisite: One should possess the knowledge of basic terminologies in respect of indirect taxes & direct taxes and Old taxes such as VAT, Service tax etc.

UNIT I: Assessment of Individual and Hindu Undivided Family **12**
Computation of Gross Total & Total Income of Individual and HUF

UNIT II: Tax Liability of Individual and Hindu Undivided Family **10**
Computation of Income Tax Liability of Individual and HUF

UNIT III: Assessments of Firms and Companies **13**
Computation of Gross Total Income and Total Income of Firms and Companies

UNIT IV: Tax Liability of Firms and Companies **10**
Computation of Income Tax Liability of Firms and Companies

Reference Books

- Dr. H.C. Mehrotra&Dr. S.P. Goyal-Income Tax Law and Accounts-SahityaBhavan Publication.
- www.icai.ac.in

'Skill Enhancement Course – III' (SEC-III) (Any One)

B. Com. Semester Vth (CBCS Pattern)

SEC-III.3 Intellectual Property Right-I

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Learning Objectives :

To develop the knowledge about intellectual property right and patent rights in the students in various business and professions.

Utility: To get the future aspect of IPR and research.

Prerequisite: Basics of Research and other legal things.

UNIT I: Introduction **12**

Meaning, Relevance, Business Impact, Protection of Intellectual Property, Copyrights, Trademarks, Patents, Designs, Utility Models, Trade Secrets and Geographical, Indications, Bio-diversity and IPR, Competing Rationales for Protection of Intellectual Property Rights, Introduction to the leading International Instruments concerning Intellectual Property Rights: the Berne, Convention, Universal Copyright Convention, The Paris Convention, Patent Co-operation Treaty,,TRIPS, The World Intellectual

Property Organization (WIPO) and the UNESCO

UNIT II: Patents **13**

Concept of Patent, Product / Process Patents &Terminology, Duration of Patents- Law and Policy Consideration Elements of Patentability,- Novelty and Non Obviousness (Inventive Steps and Industrial Application, Non- Patentable Subject Matter, Procedure for Filing of Patent Application and types of Applications, Procedure for Opposition, Revocation of Patents, Ownership and Maintenance of Patents, Assignment and licensing of Patents, Working of Patents- Compulsory Licensing, Patent Agent-Qualification and Registration Procedure

UNIT III: Patent Databases & Patent Information System **10**

Patent Offices in India, Importance of Patent Information in Business Development, Patent search through Internet, Patent Databases

UNIT IV: Preparation of Patent Documents **10**

Lab Notebooks/Log Books/Record Books, Methods of Invention Disclosures, Patent Application and its Contents, Writing of the Patent Document **List of Recommended Books and References:**

- Aswani Kumar Bansal : Law of Trademarks in India
- B L Wadehra : Law Relating to Patents, Trademarks, Copyright, Designs and Geographical Indications.
- G.V.G Krishnamurthy : The Law of Trademarks, Copyright, Patents and Design.
- SatyawratPonkse : The Management of Intellectual Property.
- S K Roy Chaudhary & H K Saharay : The Law of Trademarks, Copyright, Patents and Design. Legal Aspects of Technology Transfer: A Conspectus
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Manual of Geographical Indications Practice and Procedure
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Manual of Patent Office Practice and Procedure Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Manual of Designs Practice and Procedure
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Revised Draft Manual of Trademarks Practice and Procedure
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Trade Marks Agents

'Skill Enhancement Course – III' (SEC-III) (Any One)

B. Com. Semester Vth (CBCS Pattern)

SEC-III.4 Accounting and Tally

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Learning Objectives :

To develop the knowledge of student in accounting treatment with the help of computer software technology

Utility: To know the advanced packages and time saving.

Prerequisite: ideologies of computer and accounting knowledge.

Unit I: - Fundamentals of Accounting (10 Lectures)

Introduction and Meaning of Business, Types of Business Organizations, Basic Accounting Concepts, Meaning of Book-keeping and Accountancy, Branches of Accounting, Systems of Accounting, Meaning and Types of Account, Golden Rules of Accountancy

Unit II:- Maintaining Chart of Accounts (08 Lectures)

Introduction and Opening Screen of Tally, Company Creation, Company Features and Configuration, Meaning and Nature of Group, Predefined Groups in Tally ,Ledger Creation,
Groups Creation, Practical Assignments

Unit III:- Maintaining Inventory (06 Lectures)

Introduction to Inventory (Skill Academy Books Business), Inventory Masters in Tally, Creation of Stock Group, Creation of Units of Measure, Creation of Stock Item, Creation of Godown,
Creation of Stock Category, Practical Assignments

Unit IV: - Recording Day to Day Transactions (10 Lectures)

Introduction, Source Documents or Vouchers Required for Accounting, Accounting Vouchers, Inventory Vouchers, Practical Assignments

Unit V:- Advanced Features in Tally Erp 9 (11 Lectures)

5.1 Maintaining Bill wise Details in Tally Erp 9

5.1.1 New Reference
5.1.2 Against Reference
5.1.3 Advance
5.1.4 On Account

5.2 Cost Centers

5.2.1 Cost Category
5.2.2 Cost Center
5.2.3 Creation of Cost Category
5.2.4 Creation of Cost Center

5.3 Practical Assignments **Reference:**

- Ashok K Nadhani-Tally.ERP9-BPB Publication
- Er. SoumyaRanjanBehera- Tally ERP9 with GST-
- Shraddha Singh, NavneetMehra- Comprehensive Computer Learning Tally
- Ashok K Nadhani-Mastering Tally ERP 9-BPB Publication
- Dr.S.K.Khillare, Kale N.B.– Tally – Self Study Publication Pune
- Dr. J. J. Ahirrao&Dr. P. N. Totala – I.T. & its Application in Business, Kailash Publication Aurnagabad

'Skill Enhancement Course – III' (SEC-III) (Any One)

B. Com. Semester Vth (CBCS Pattern)

SEC-III.5 Financial Literacy Skills

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Objective:
To encourage the college students to obtain basic financial skills which are essential for their full Participation in society and life time of well-being.
Utility: To know the financial aspects of business.
Prerequisite: Basics of Financial studies & risk factors.
Contents:

Unit **I** Money Matters and Budgeting 13

Money as medium of exchange and as medium of storage; Net-worth- difference between money and wealth, Assets and Liabilities, assets and income; liabilities and expenses, importance of financial goals in personal financial planning, S.M.A.R.T. goals, Sources of income, professional income and investment income - active income and passive income; regular and lump sum expenses, discretionary and non-discretionary expenses; Deficit and Surplus, saving and investing, What is Cash-flow Statement?-the structure, items, purpose, the different heads, the essence of Budget-Meaning, purpose and different heads, Opportunity Cost? Instant gratification and delayed gratification

Unit II Understanding insurance and risk management: 12

"pure risk" and "investment risks", Ways to manage risk: Avoid, Reduce, Retain, Share & Transfer, spreading the risks and sharing of losses, insurance premium an expense, insurance products and terminology, Term plan -the pure insurance, Hybrids- combination of insurance and investment, Critical illness, General insurance: Vehicle insurance, Medical insurance, Disability insurance and Property insurance, differences in the features of various products, Know about functions and powers of IRDA, the insurance regulator in India

Unit III Understanding Investments: 10

The importance of Investment, diversification as a risk mitigation tool, Liquidity: definition, need and concept of Impact Cost, growth of money / concept of "returns", Inflation- short term and long term impact of inflation on personal finances, real rate of returns, CPI, WPI, Time Value of Money, Interest- Simple Interest, Compound Interest, Annualized Interest and its calculations, Understanding the impact of different compounding frequencies, nominal interest and effective interest rate, the Rule of 72 and Rule of 144

Unit IV Introduction to Stocks and bonds: 10

Equity Stocks -face value, shares at a premium and at a discount, dividend, the market value of each share and how is it determined, Earnings per share (EPS), Price to Earnings Ratio (P/E ratio),Bonds and debentures-types of bonds / debentures: Issuers, Term to maturity, Interest rate -fixed or floating, Secured / unsecured, Convertible / nonconvertible, Understand credit risk and credit rating,; functions and powers of Securities and Exchange Board of India- the securities market regulator in India; stock exchanges- their main functions and stock exchanges in India;

References:

1. http://www.ncfeindia.org/NFLAT
2. National Financial Literacy Assessment Test- Vidyabhartee Prakashan

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Vishnupuri, Nanded-431606

B.Com.-III Year (Semester VI)

Choice Based Credit System (C.B.C.S) Syllabus

W.e.f. 2021-22

Paper No.	Name of the Paper	Lecture/Week	Total Periods	Continuous Assessment (CA)	End of Semester Exam (ESE)	Total Marks	Total Credit
BC.6.1	Advanced Accounting-II	4	54	25	75	100	4
BC.6.2	Management Accounting-II	4	54	25	75	100	4
BC.6.3	Auditing-II	4	54	25	75	100	4
	Opt Any one Group as Discipline Specific Elective of the following						
	Group A- Taxation						
BC.6.4A	Goods and Services Tax	4	54	25	75	100	4
BC.6.5A	Project Work	4	54	50	50	100	4
	Group B- Management						
BC.6.4B	Marketing Management	4	54	25	75	100	4
BC.6.5B	Project Work	4	54	50	50	100	4
	Group C- UGC Vocational Course -Tax Procedure & Practice (Only for Approved College)						
BC.6.4C	Goods and Service Tax Procedure and Practice	4	54	25	75	100	4
BC.6.5C	Project Work	4	54	50	50	100	4
	Group D- UGC Vocational Course- Foreign Trade Procedure & Practice (Only for Approved College)						
BC.6.4D	International Marketing Logistics (FT-X)	4	54	25	75	100	4
BC.6.5D	Project Work	4	54	50	50	100	4
	Group E- UGC Vocational Course- Computer Application (Only for Approved College)						
BC.6.4E	Network & E-commerce and CyberSecurity (CA-X)	4	54	25	75	100	4

BC.6.5E	Project Work	4	54	50	50	100	4
	Opt Any one Subject as Generic Elective of the following						
GE-II.1	Indian Economy-II	4	54	25	75	100	4
GE-II.2	Labour Laws and Industrial Law-II	4	54	25	75	100	4
GE-II.3	Banking and Finance-II	4	54	25	75	100	4
	Opt Any one Skill Enhancement Course – IV (SEC-IV)						
SEC-IV.1	Self-Employment Skills-II	3	45	25	25	50	2
SEC-IV.2	Tax Consultancy	3	45	25	25	50	2
SEC-IV.3	Intellectual Property Right-II	3	45	25	25	50	2
SEC-IV.4	Accounting & Auditing Practices	3	45	25	25	50	2
SEC-IV.5	Mutual Fund Distribution	3	45	25	25	50	2

B. Com. Semester VIth (CBCS Pattern)

BC.6.1 Advanced Accounting-II

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	100 Marks
Total Credit	04

Learning objectives: The objective of the course is to equip the students with the ability to analysis interpret and use accounting information in managerial decision making and auditing.

Utility: Student can acquire knowledge of advance level of accounting for professional

Prerequisite: Basic knowledge of financial accounting

UNIT I:Accounts of Electricity Company **11**

The Double Entry Accounting System – Meaning & Advantages. Preparation of Electricity Company Accounts

UNIT II: **Departmental Accounts** **11**

Meaning, Importance of Departmental Account, Preparation of Departmental Profit and Loss, Balance Sheet and General Profit & Loss Account (with Loading, internal transfer)

UNIT III:Packages Account **11**

Meaning and Importance, Preparation of Package Account.

UNIT IV: Account of Profession **11**

Meaning, Importance of Profession Account, Preparation of Profession Account Solicitors Account only

UNIT V: Insolvency Accounts **10**

Meaning, Importance, Procedures of Insolvency.

Reference:

1. Advanced Accounting (S. N. Maheshwari)
2. Advanced Accounting Vol. 1, 2 (Mr. Hanif& A. Mukharjee, Tata McGraw Hill Publishing Company Ltd.)
3. Accountancy (H. R. Kotalwar) Discovery Publication, Latur
4. Advanced Accounting Vol. I (R.S.N. Pillani, Bhagwati& S. Uma- S. Chand Publication)
5. Advanced Accounting (C.A. Raj K Agrawal) : SahityaBhavanPublicaiton,Agra
6. Company Accounts & Auditing Practices (SangeetKedia's)
7. Advanced Accounting-I – Dr. H. W.Kulkarni, Dr.S.S.Agrwal, Dr. Pankaj Aboti
8. Advanced Accountancy (M. G.Patkar, PhadkePrakashan, Pune)
9. Advance Accounting- Dr.TanshettiR.V.,Dr. Tammalwar A.N.- Aruna Publication Latur

B. Com. Semester VIth (CBCS Pattern)

BC.6.2 Management Accounting-II

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	100 Marks
Total Credit	04

Learning Objectives:-The Objectives of this paper is to equip the students with the ability to analysis, interpret and use accounting information in Management accounting information in managerial decision making. The student is expected to have a good working knowledge of the subject. This paper provides the students an understanding of the application of accounting techniques for management.

Utility: Students can take managerial decisions regarding finance of the business
Prerequisite: Basic knowledge of accounting and mathematics

UNIT I: Financial Statement Analysis **Lectures: 11**

Meaning - Nature & Limitations of Financial Statement, Objective and Methods of Financial Statement Analysis, Comparative Financial Statement, Common Size Financial Statements & Trend Analysis.

UNIT II: Ratio Analysis **11**

Meaning, Advantages and Limitations of Ratio Analysis, Classification of Ratios, Calculation of Rations, Current Ratio, Liquid Ratio, Stock Turnover Ratio, Debtors Turnover Ratio, Credit Turnover Ratio, Operating Ratio, Gross Profit Ratio, Proprietary Ratio, Fixed Assets Turnover Ratio, Debt Equity Ratio, Return of Capital Employed Ration, Capital Grading Ration.

UNIT III: Working Capital Management **11**

Concept, Significance, Nature and Factors determining requirement of Working Capital, Management of Working Capital, Working Capital Forecasting and Techniques of Forecasting Working Capital.

UNIT IV: Capital Budgeting **11**

Meaning & Nature of Capital Budgeting, Need & Importance of Capital Budgeting, Capital Budgeting Process, Methods of Capital Budgeting or Evaluation of Investment Proposal, Traditional Methods, Time Adjusted Method or Discounted Method.

Unit V: Responsibility Accounting **10**

Meaning and Concept of Responsibility Accounting, Advantages and limitation, Problems on Responsibility Accounting.

Reference :

- Cost & Management Accounting by Ravi N.Kishor ,Publication Taxmonth
- Essential of Management Accounting by P.N.Reddy,Himalaya
- Advanced Management Accounting by Robert S Kailar,Holl

- Financial Of Management Accounting by S.R.Varshney,Wisdom
- Introduction Of Management Accounting by Charbs T Horngram, PHI Learnng
- Management Accounting by Jha&Naik, Himalaya Publication
- Cost & Management Accounting by D.K.Mattal,Galgotia
- Management Accounting by Khan &Jain,TataMegaw
- Management Accounting by R.P.Resstogi
- Management Accounting by I.M.Pandey, Vikas
- Management Accounting by Manmohan Goyal, SahityaBhavan Publication, Agra Management Accounting by R.K. Sharma & S.K. Gupta, Kalyan Publication, Ludhiyana.
- Management Accounting by Khan M.Y. & Jain R. K. Tata McGrow Hill, New Delhi.
- Management Accounting by N. Vinayak& I.B. Singh, Himalaya Publication House, Delhi
- Management Accounting by R.S.N. Pillai & V. Bhagvati, S.Chand Publication, Delhi Management Accounting by Dr. S.N. Mahaeshwari, Sultan Chand & Sons, Delhi.
- Management Accounting by Dr. H.W. Kulkarni, Dr. V.K. Bhosle, Dr. S.M. Kolhe, ArunaPrakashan, Latur.
- Management Accounitng by Dr. S.S. Agrawal &Dr.S.R.AgrawalChinmayPrakashan Aurangabad
- Managemtnt Accounting – I –Dr.Tanshette R.V. Dr.Tammalwar A.N.- Aruna Publication Latur

B. Com. Semester VIth (CBCS Pattern)

BC.6.3 Auditing-II

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	100 Marks
Total Credit	04

Learning Objective:
The Objective of the course is to provide the candidates with sound Knowledge of the important provisions of the Audit and company law and their Applications in practices.

Utility: Regarding minute study to find out the fraud and errors in accounting

Prerequisite: Theoretical and Practical knowledge of accountancy

UNIT I: Checking Vouching and Audit Report **Lectures: 11**

Meaning and Definition of Vouching, Objectives of Vouching, Test checking-Vouching of Cash Book, Elements of Audit Report, Types of Audit Report -Qualified and Clean Audit Report, Audit Certificate.

UNIT II: Internal Audit **11**

Meaning, Basic Principles of Establishing Internal Audit, Objectives, Evaluation of Internal Audit by Statutory Auditor, Usefulness of Internal Audit, Internal Audit Vs External Audit, Internal Checks Vs Internal Audit

UNIT III: Auditing in Computerized Information System (CIS) **11**

Meaning of CIS, Approaches to computer auditing- distinction between manual accounting audit and computerized accounting audit, Characteristics of CIS environment, computer frauds and computer virus, concept of audit software.

UNIT IV: Audit of Banking Companies **11**

Definition, Restrictions on Banking Company, Audit of Banking, NPA-meaning & Important points of Non-Performing Assets with reference to Bank Audit,

UNIT V: Standards on Auditing **10**

SA-200, SA-230, SA-240, SA-299, SA -300, SA-320, SA-500, SA-580 SA 600SA 610 SA-620.

Reference Books:

1. Auditing and Assurance By CA Pankaj Garg. Taxman
2. Auditing and Assurance By CA Raj K. Agrawal. Study At Home.
3. Auditing Practices By Abhishek Mittal. Pooja Law Publication
4. Auditing and Assurance By Best Ward Publication
5. Auditing by Dr.JitendraAhirrao, Dr. Vasant Mahajan, Dr.NandkumarRathi, ChinmayPrakashan, Aurangabad
6. Auditing – Dr. J.P Bhosle, AthrvPublicaton Pune
7. T. M. Kothari-saindane , Prashant publication Jalgaon

'Group-A'

Taxation

B. Com. Semester VIth (CBCS Pattern)

BC.6.4A-Goods and Service Tax

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective: The Objective of the course is to provide the candidates with sound Knowledge of the important provisions of the GST Act and their applications in practices.
Utility: To get oneself acquaint with the new indirect tax system.
Prerequisite: One should possess the knowledge of basic terminologies in respect of indirect taxes and Old taxes such as VAT, Service tax etc.

Unit I: Introduction of Goods and Service Tax 11

Genesis of GST in India, Power to tax GST (Constitutional Provision). Title, extent and commencement,
Definition of GST, What is GST, Benefits of GST, Number of Legislations, Rates of CGST/SGST and IGST, Amendments in7th Schedule of Constitution, GST (Compensation to State) Cess

Unit II: Registration under Goods and Service Tax 11

Person liable to be Registered, Requirement and Procedure for Registration, Registration of person having multiple businesses, Registration of non-resident Taxable person

Unit III: Administration and Levy of Goods and Service Tax 11

Levy & Collection of GST [Sac.9 CGST Act], Composition Scheme under GST [Sec.10 CGST Act' Power to grant Exemptions [Sec.11 of CGST Act]

Unit IV: Concept of Supply and Time of Supply 11

Taxable Event – Supply' Meaning and Scope of Supply [Sec.7] Schedule I,II,III Composite and Mixed Supplies [Sec.8]Time of Supply in case of Goods & Services

Unit V: Input Tax Credit 10

Conditions for Input Tax Credit, Utilization of input tax credit, Input tax credit when exempted as well as taxable supplies made Input Service Distributor [ISD] Input tax credit ailment, computation of ITC and Tax Liability under GST.

Suggested Reading:

1. CA Raj K Agrawal Study AT Home.
2. Dr.Vinod K Singhania: Taxman publications.
3. T.N.Manoharan: Snow White.
4. Public Economic & GST, Dr.AnandShewale, Dr.ShivprasadDongare, Dr. Asha Bhairat, Prof.SayyedShabnam, Vidya Books Publishers, Aurangabad.
5. www.icai.ac.in

'Group-B'Management

B.Com. Semester VIth (CBCS Pattern)

BC.6.4B-Marketing Management

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objectives:-Objectives of this course is to provide a sound understanding of the basic Principles of Marketing Management and their applications in the business and industry.

Utility: To aware oneself in respect of difference between sales and marketing.
Prerequisite: Social role of business and Environmental factors affecting the business.

Unit I: Marketing: 11
Meaning and Definitions, Approaches to the Study of Marketing, Importance of Marketing, Scope of Marketing, Concept of Marketing Management, Function of Marketing Management, Marketing Management in India.

Unit II: Marketing Planning: 11
Meaning and Definitions, Objectives of Marketing Planning, Process of Marketing Planning, Kinds of Marketing Planning. Marketing Programme: Concept, Factors affecting Marketing Programme.

Unit III: Product and Pricing Decisions: 11
Concept of Product, New Product Development Process, Classification of Product, Concept of Pricing, Importance of Decisions, Factors affecting Decisions.

Unit IV: Physical Distribution and Promotion: 11
Concept of Distribution Channels, Importance of Distribution Channels, Function of Distribution Channels, Concept of Sales Promotion, Importance of Sales Promotion, System of Sales Promotion.

Unit V: Marketing Information System: 10
Concept, Features of Marketing Information System, Objectives & Importance of Marketing Information System, the Role of Computer in Marketing Information System.

Suggested Readings:

1) Philip Kolter – Marketing Management (Prentice Hall of India, New Delhi)
2) Sherlekar, S.A. – Marketing Management (Himalaya Publication House, Mumbai)
3) Karunakaran, K – Marketing Management (Himalaya Publication House, Mumbai)
4) Dr.PrabhakarDeshmukh – Marketing Management (VidyaPrakashan, Nagpur)
5) Dr. S. V. Kadvekar – Marketing Management (Diamond Publication, Pune)
6) Dr. Mahesh Kulkarni, &Dr.PramodBiyani – Marketing and Salesmanship (NiraliPrakashan, Pune)
7) Marketing Management – Dr.S.K.Khillare,Dr.S.L. Kundalwar, Aruna Publication Latur

'Group-C'

UGC Vocational Course-Tax Procedure & Practice

B.Com. Semester VIth (CBCS Pattern)

BC.6.4C- Goods and Service Tax Procedure & Practice- (TPP-X)

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective: The Objective of the course is to provide the candidates with sound Knowledge of the important provisions of the GST Act and their applications in practices.
Utility: To get oneself acquaint with the new indirect tax system.
Prerequisite: One should possess the knowledge of basic terminologies in respect of indirect taxes and Old taxes such as VAT, Service tax etc. Knowledge of Packages in respect of taxes.

Unit I: Assessment under Goods and Service Tax 11

Self-Assessment, Provisional Assessment, Scrutiny of Returns, Assessment of Non-filers of Returns, Assessment of Unregistered Persons, Scrutiny Assessment in Certain Special Cases.

Unit II: Payment of Tax under Goods and Service Tax Law 11

Audit by tax, Special Audit.Who may conduct the Audit? What is meant by commencement of Audit? Time limit for completion of Audit, How to conduct Audit, Finalisation of Audit.

Unit III: Account, Records and Audit under Goods and Service Tax Law 11

Introduction, Accounts and other Records, Who is Required to Maintain his Books of Accounts and at which place?, Accounts and Records Required to be Maintained, Audit of Account, Types of Audits, Who may conduct the audit?, Commencement and conduct of audit, Time limit for completion of Audit, Period of Retention of Accounts, Electronic way Bill.

Unit IV: Inspection, Search & Seizure, Offence and Penalties under GST 11

Introduction to Inspection , Powers of Inspection, Search and Seizure, Introduction to Penalties and Offence, Penalty for Certain Offences, Penalty for Special cases, General Penalty, General disciplines Related to Penalty, Power to Impose Penalty in Certain cases, Power to waive Penalty or Fee or Both

Unit V: Computation of Tax liability under Various Factor 10

Meaning of Tax Credit, Input Tax Credit, GST Computation for Registered Person, Exporter, Importer, ISD, E-commerce operator, RCM, etc

Suggested Reading:

1. CA Raj K Agrawal Study AT Home.
2. Dr.Vinod K Singhania: Taxman publications.
3. T.N.Manoharan: Snow White. www.icai.ac.in

'Group D'

UGC Vocational Course-Foreign Trade Practices & Procedures

B.Com. Semester VIth (CBCS Pattern)

BC.6.4D- INTERNATIONAL MARKETING LOGISTICS (FT-X)

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Learning Objective -To Familiarize the students with the basics of marketing logistics and marketing practices.

Utility: To get familiar with Domestic and overseas transportation and distribution cost plus storage of goods.

Prerequisite: Selling and Distribution cost and basics of single output system.

Unit-I :Introduction toMarketing Logistics: (10Periods)

Introduction,ConceptofMarketingLogistics,ObjectivesofMarketingLogistics,ImportanceofMarketingLogistics,DomesticandInternationalLogistics,RecentDevelopmentsinInternationalLogistics

Unit-II :InlandTransportation: (10Periods)

Road Transport-Advantages, Limitations of Road Transport System, Role of Road Transport in movement of Export and ImportCargoes, OverseasTransportation

Unit-III :Water Transport: (10Periods)

Features of Water Transport, Inland Waterways Authority of India, Constraints Faced by Inland water Transport, FutureProspects, Air Transport-Organization of Air Transport Advantages and Disadvantages

Unit-IV :Warehousing: (12Periods)

Introduction, Objectives, Concept of warehousing, Elements of warehousing,Functions of Warehousing,Role of Warehousein economic Development, AdvantagesofPublicWarehouse,WarehousingCorporation in India, Objective and Functions of Warehousing Corporations.

Unit-V :Export Promotion, Packing for Exports: (12Periods)

Advertising, trade fairs and exhibitions, personnel selling & export personnel management, promotion of products/services abroad. Packing and packaging for exports, Objectives of good Export Packing,Factors influencing Export Packing.

Reference Books;

1. InternationalTrade&ExportManagementbyFrancisCherunilam,HimalayaPublishingHouse,Mumbai.
2. InternationalMarketingManagementbyR.L.Varshney&B.Bhattacharyya,SultanChand&Sons,NewDelhi.
3. InternationalBusinessbyP.SubbaRao, HimalayaPublishingHouse,Mumbai
4. Nabhi'sExportersManual&Documentation, NabhiPublication, NewDelhi

'Group E'

UGC Vocational Course-Computer Application

B. Com. Semester VIth (CBCS Pattern)

BC.6.4E- Networking and E-Commerce Cyber Security (CA-X)

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25Marks
Total	100 Marks
Total Credit	04

Objective of the paper;

- To Develop a fundamentals of the different types and key components of Computer Networks
- To explain guiding principles behind the design and strategy of the customer web interface.
- Understand the traditional and new communication/marketing approaches.
- To know the importance of cyber security in business and E-commerce.

Scheme of marking;

- University written exam- 75 marks
- Internal exam based on assignments, seminars and participation in other activities - 25marks

Course inputs:

1 Introduction to Computer Networks 12 Periods

Introduction to computer network, Data Communication, Data transmission mode, Types of Network LAN, MAN, WAN, Wireless LAN, Internet, Intranet, Extranet, Network Models: client server network, pair to pair network OSI, TCP/IP.

2 Transmission Media And Topologies 10 Periods

Transmission Media: Twisted Pair, Coaxial Cable, Optical Fiber, Radio frequency, Satellite, Microwave LAN Topologies: Ring, Bus, Star, Mash and Tree topologies

3 E-Commerce 10 Periods

What is E-Commerce, Advantages & Disadvantages of E-Commerce Classification of E-Commerce, Application of E-commerce, E-banking, Mobile Commerce, E-Trading, E-shopping. E-Business Risk Management

4 Cyber Security 12 Periods

Introduction of cyber Security, Types of cyber security , Types of Cyber Attacks: Hacking, Phishing, Web attack, DDoS attack IP Spoofing, Firewalls, Antivirus, SSL Encryption, Symmetric Cryptography, Asymmetric Cryptography RAS Algorithm,

5 Digital Signature 10 Periods

Technology behind digital signature, Creating a digital signature Verifying the digital signature, Digital signature & PKI

References:

1) C.V.S. Murthy – E-Commerce Concept Models , Strategies
2) P.T. Joseph – A Managerial Perspective
3) E-Commerce by Kamlesh Bajaj, Debjani Nag

Generic Elective (Any one)

B. Com. Semester VIth (CBCS Pattern)

GE-II.1 Indian Economy-II

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	100 Marks
Total Credit	04

Objective

To acquaint the student with the development of knowledge about Indian Economy and various system of control the Economic crises in Indian Economy.

Utility: To be familiar with the Indian Economic system.
Prerequisite: Basics of Business Economics.

Unit I: Objectives and Strategy of Economic Planning No. Of Lectures: 11

Objectives of Economic Planning in India, Mixed Economy and Economic Planning, Models of Economic Development-Nehru Vs Gandhi, LPG Model of Development, PURA-A Gandhian Approach to Development.

Unit II: Industrial Policy and Economic Development 11

Key Features of Industrial Policy-1956, 1977, 1980, 1991 & Onwards.

Unit III: Public Sector and Disinvestment Policy 11

Role of the Public Sector in India, Shortcomings of Public Sector, Rational of Disinvestment, Emergence of Disinvestment Policy, New Directions of Policy on the Public Sector.

Unit IV: Privatisation and Globalization of Indian Economy 11

Comparison of the Public Sector and Private Sector, Economic Reforms since 1991, Privatization-The Alternative Models, Globalization and its Impact on Indian Economy.

Unit V: The Parallel Economy 10

Meaning of Parallel Economy, Impact of Black Money, Incomes on the Economic and Social System, Factors Responsible for Generation of Black Money, Evaluation of Policy Package to Control Parallel Economy

Reference Books

3. Indian Economy – by MisraPuri
4. Indian Economy- by DattRuddar, KPM Sundharam

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Generic Elective (Any one)
B. Com. Third Year Syllabus (w.e.f. 2021-22)
Semester VIth (CBCS Pattern)
GE-II.2 Labour Laws and Industrial Laws-II

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	100 Marks
Total Credit	04

Learning Objective: The objective of the course is to provide the candidates with sound Knowledge of the important provisions of the Labour laws and Industrial laws and their applications in practice.

Utility: To introduce and apply laws regarding business and implement them in the businesse.

Prerequisite: Basics of Law and fundamental acts.

UNIT I: Payment of Wages Act, 1936 **11**

Introduction, Meaning of Industrial and Other Establishments, Timely Payment of Wages (Sec.4, 5, &6)

UNIT II: Child & Adolescent Labour (Prohibition and Regulation) Act, 1986 **11**

Introduction, Prohibition of Employment of Children in any Occupation or Process (Sec.3), Maintenance of Register Sec.11, Penalty (Sec.14)

UNIT III: Factories Act, 1948 **11**

Introduction Meaning of Factory, Manufacturing Process, Definition of Worker (Sec 2(I)), Meaning of Occupier of Factory, Facilities And Conveniences, Welfare Measures, Working Hour, Overtime Wages, Leave, Employment of Women, Adult, Young Person, Display on Notice Board, Punishment To Welfare Officer,

UNIT IV: The Industrial Employment (Standing Orders) Act, 1946 **11**

Introduction, Meaning of Standing Orders, Applicability, Approval of Standing Orders

UNIT V: Industrial Disputes Act, 1947 **10**

Introduction, Meaning of Industry, Meaning of Industrial Disputes, Adjudication of Disputes, Arbitration And Adjudication, Meaning of Award, Settlement, Lay –Off, Retrenchment, Strike, Lock-Out.
Distinction Between Lay –Off and Lock-Out.

References:

1) Industrial , labour & General law - Sangeetkedia's
2) Labour & Industrial law - P. K. Padhi, PHI Learning Pvt. Ltd.
3) Labour Laws – AjitPrakashan's
4) Labour & Industrial laws – Ravi Shinde, Asian law House
5)Industrial & labour law - CA Shivangi Agrawal, Study At Home
6)Labour & Industrial Law - Mishra and Puri.

Generic Elective (Any one)
B. Com. Third Year Syllabus (w.e.f. 2021-22)
Semester VIth (CBCS Pattern)
GE-II.3 Banking and Finance-II

No. of lectures	54
End of Semester (University Exam)	75 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	100 Marks
Total Credit	04

Learning objectives:

4. To gain the knowledge of financial system in India.
5. To understand the system of financial market regulatory bodies.
6. To gain the knowledge about recent trends in banking sector.

Course Outcomes:

Students will be able to understand the structure of Indian financial system and regulatory bodies like RBI and SEBI.

Utility:

It is very useful in understanding the structure of money market and capital market and also the recent trends in banking.

Course Contents:

Chapter 1: Reserve Bank of India

History of Imperial Bank, Establishment and Nationalization of Reserve Bank of India, Role of RBI as a Central bank, Functions of RBI- Regulatory function, Developmental functions, Credit control, Bank note printing and distribution, Functions related to banks and Government.

Chapter 2: Indian Money Market

Meaning, Concept and Definitions of Money Market, Functions of the Money Market, Benefits of an efficient money market, Role of RBI in the money market, Money Market Instruments- Treasury Bills, Commercial Papers, Certificates of Deposits, Call Money Market.

Chapter 3: Indian Capital Market

Meaning, concept and definition of Capital Market, Brief history of Indian Capital Market, Functions of a Capital Market, National Stock Exchange, Over The Counter Exchange of India, Bombay Stock Exchange, Capital Market Major Scams in India.

Chapter 4: Securities and Exchange Board of India (SEBI)

Need for capital market regulation in India, Establishment of SEBI, Objectives and Role of SEBI, Functions of SEBI- Regulatory and Developmental functions, Departments of SEBI, Financial Literacy Initiatives of SEBI, Importance of SEBI in Capital Market Regulation.

Chapter 5: Recent Trends in Banking

Recent trends in banking- Online banking, Debit card, Credit card, Point of Sale (PoS), Aadhar enabled Banking, Digital Payment System, National Payments Corporation of India (NPCI), BHIM, e-wallets, Merits and Demerits of online banking, cyber security in online banking.

Reference Books:

1 S. Natrajan and Parmeswaran, Indian Banking, S. Chand Publication, New Delhi

1 Mukund Mahajan, Indian Banking System, NiraliPrakashan, Pune

3 Gordan and Natrajan, Financial Markets and Services, Himalay Publication, New Delhi

4 Khan, M.Y., Indian Markets and Financial Institutions, Tata-McGraw Hill, Publication, New Delhi

5 Bharathi V. Pathak, Indian Financial System, Pearson Publication, Noida, Uttar Pradesh

6 डॉ. मारुती कांबळे, डॉ. रमाकांत घाडगे आणि डॉ. बाबाराजे कांबळे, भारतीय बँकिंग व्यवस्था, [illegible] कळंब, सहपर

Skill Enhancement Course
B. Com. Semester VIth (CBCS Pattern)
SEC-IV.1 Self Employment Skill-II

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25Marks
Total	50 Marks
Total Credit	02

Objective: To develop and adopt the various skills in the students for develop their career and take the self-employment skills.

Utility: "self-employment is best employment" to know the advantages of it.
Prerequisite: Employment opportunities and other relevant aspects.

UNIT I: Interpersonal Skill Development **No. Of Lectures: 11**

Positive Relationship, Positive Attitudes, Empathise : comprehend other opinions points of views, and face them with understanding, Mutuality, Trust, Emotional Bonding, Handling Situations (Interview)

UNIT II: Identification of Business Opportunity **11**

Environmental Scanning for identification and selection of business opportunity, Divergent Thinking Mode: Meaning and Objectives –Tools and Techniques, Convergent Thinking Mode: Meaning and objectives -Tools and Techniques.

UNIT III: Financial Assistance for Small Enterprise **12**

Non-Institutional : own Fund –Family and Friends, Institutional: (a) Bank Loans –Co-operative Banks-Nationalized Bank – Scheduled Banks, (b) Angel Funding (c) Venture Funding (d) Selfemployment Schemes of Government, (e) Government Financial Institutions : Khadi and Village Industries Board (KVIB) –Micro, Small and Medium Enterprises (MSME), Rajeev Gandhi UdyamiMitraYojana (RUGMY), District Industries Centre (DIC), (f) Prime Minister Employment Generation Programme (PMEGP), (g) For urban –Seed Capital Schemes.

UNIT IV: Field Studies **11**

Study of the organizations engaged in self-employment activities, Study of the Business Enterprises of the self-employed persons

Reference Books:

1. Entrepreneurship Development –New Venture Creations: By Taneja Satish and Gupta S.L.
2. Handbook for New Entrepreneurs Entrepreneurship Development: by Jain P.C.
3. Entrepreneurial Development: By Gupta C.B. & Srinivas.
4. Development of Soft Skills: By Menna K. and V. Ayothi
5. You Can Win: Shiv Khera

Skill Enhancement Course

B. Com. Semester VIth (CBCS Pattern)

SEC-IV.2 Tax Consultancy

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Learning Objectives:

To develop the skill among the students for tax consultancy practices.

Utility: To get oneself acquaint with the tax system.

Prerequisite: One should possess the knowledge of basic terminologies in respect of indirect taxes & direct taxes and Old taxes such as VAT, Service tax etc.

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UNIT I: **No. of Lectures: 12**

Skill of filing the Income Tax Returns for Salaried Persons

UNIT II: **11**

Skill of filing the Income Tax Returns for Company

UNIT III: **11**

Skill of filing the Income Tax Returns for Firms

UNIT IV: **11**

Skill of filing the GST Returns for Retailers

Reference Books

- Dr. H.C. Mehrotra&Dr. S.P. Goyal-Income Tax Law and Accounts-SahityaBhavan Publication.
- Dr. Vinod K. Singhaniya-Taxman Publication.
- www.icai.ac.in

Skill Enhancement Course

B. Com. Semester VIth (CBCS Pattern)

SEC-IV.3 Intellectual Property Rights -II

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Learning Objectives :

To develop the knowledge about intellectual property right and patent rights in the students in various business and professions

Utility: To get the future aspect of IPR and research.

Prerequisite: Basics of Research and other legal things.

UNIT I: Trademarks **No. Of Lectures: 12**

The rationale of protection of trademark as (a) an aspect of commercial and (b) of consumer rights, Definition and concept of Trademarks, Different kinds of marks (brand names, logos, signatures, symbols, well known marks, certification marks and service marks),Non Registrable Trademarks, Procedure for Registration of Trademarks, Assignment/Transmission / Licensing of Trademarks

UNIT II: Copyrights **13**

Nature of Copyright, Works in which Copyrights subsist, Author & Ownership of Copyright Rights Conferred by Copyright, Assignment, Transmission, Licensing of Copyrights Copyright pertaining to Software/Internet and other Digital media

UNIT III: Industrial Designs **10**

What is a Registrable Design, What is not a Design, Novelty & Originality, Procedure for Registration of Designs, Copyright under Design

UNIT IV: Geographical Indications **10**

Meaning and Nature, Who are entitled for registration, Conditions& Procedure for Registration, Offences and Penalties

List of Recommended Books and References:

- Aswani Kumar Bansal : Law of Trademarks in India
- B L Wadehra : Law Relating to Patents, Trademarks, Copyright, Designs and Geographical Indications.
- G.V.G Krishnamurthy : The Law of Trademarks, Copyright, Patents and Design.
- SatyawratPonkse : The Management of Intellectual Property.
- S K Roy Chaudhary & H K Saharay : The Law of Trademarks, Copyright, Patents and Design.Legal Aspects of Technology Transfer: A Conspectus
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Manual of Geographical Indications Practice and Procedure
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Manual of Patent Office Practice and Procedure Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Manual of Designs Practice and Procedure
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Revised Draft Manual of Trademarks Practice and Procedure
- Office of the Controller General of Patents, Designs & Trade (CGPDTM) : Trade Marks Agents

Skill Enhancement Course

B. Com. Semester VIth (CBCS Pattern)

SEC-IV.4 Accounting & Auditing Practices

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Learning Objective:

The objective of this course is to develop the skill of Accounting and Auditing Practices among the students.

Utility: To know the advanced packages and time saving.
Prerequisite: ideologies of computer and accounting knowledge.

Unit I Accounts of Non-trading concern. No. Of Lectures: 12

Maintaining Receipts and Payments Accounts and Final accounts of Non-trading concern.

Unit II Accounts of Retail shop keepers 11

Maintaining Cash Book and Personal Accounts of Retail shop keepers.

Unit III Auditing standards 11

Maintaining Final Accounts of the Company considering the provisions of Auditing standards

Unit IV Auditing procedure 11

Auditing procedure: Vouching, verification of Assets and Liabilities, Standards on Auditing and preparation of Audit Reports.

References:

1. Advanced Accounting (C.A. Raj K Agrawal) : SahityaBhavanPublicaiton,Agra
2. Company Accounts & Auditing Practices (SangeetKedia's)
3. Corporate Accounting (C.A. Dr. P. C. Tulsian, C.A. Bharat Tulsian)
4. Advanced Accountancy (M. G. Patkar, PhadkePrakashan, Pune)
5. Auditing and Assurance By CA Pankaj Garg. Taxman
6. 2. Auditing and Assurance By CA Raj K. Agrawal. Study At Home.
7. 3. Auditing Practices By Abhishek Mittal. Pooja Law Publication

Skill Enhancement Course
B. Com. Semester VIth (CBCS Pattern)
SEC-IV.5 Mutual Fund Distribution

No. of lectures	45
End of Semester (University Exam)	25 Marks
Continuous Assessment (CA) Internal	25 Marks
Total	50 Marks
Total Credit	02

Learning Objectives:

1. To understand the basics of mutual funds and the role of Mutual fund distributor
2. To prepare the students for the NISM Mutual Fund Distributors Certification Examination

Utility: To know the financial aspects of business.

Prerequisite: Basics of Financial studies & risk factors.

UNIT I : Concept and Role of a Mutual Fund: 12

Concept, History, Functions, Advantages and limitations of a mutual fund**,** Investment objectives**,** Assets under management (AUM)**,** Fund running expenses**,** Net asset value (NAV)**,** Closed end funds and open ended funds,Categorization of funds by: investment objective**,** investing horizon**,** asset class**.** International funds**,** Fund of Funds**,** Exchange Traded Funds (ETF)

UNIT II: Fund Structure, Constituents, Legal and Regulatory Environment: 13

Structure of mutual funds in India and related regulations, Role of the sponsor, trustee andAsset Management Company(AMC) and related regulations, Role of regulators in India, Role and functions of SEBI in regulating mutual funds, Self regulatory organizations, Role and functions of AMFI, AMFI Code of Ethics, Investment restrictions and related regulations, Investor rights and obligations

UNIT III : Offer Document: 10

Regulations with respect to drafting and filing of an Offer Document for NFO, Process of NFO and steps involved in marketing an NFO, Objectives of information disclosure in an offer document, Statement of Additional Information (SAI) and related regulations, Scheme Information Document (SID) and related regulations, Key Information Memorandum (KIM) and related regulations

UNIT IV : Fund Distribution and Sales Practices: 10

Types of investors and eligibility, Distribution channels for mutual funds, Pre-requisites to become a mutual fund distributor, Key elements of agreement between distributor and a mutual fund, Sales practices and commission structure, Types of commissions and transaction charges, AMFI Code of Conduct, Process for KYD

References:

Mutual Fund Distributors-National Institute of Securities Markets (NISM), Taxman Publications Private Ltd, Mumbai.

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
Phone: (02462) 229542
Fax : (02462) 229574
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.११/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

1. B.Sc.-II Year-Biophysics
2. B.Sc.-II Year-Bioinformatics
3. B.Sc.-II Year-Biotechnology
4. B.Sc.-II Year-Biotechnology (Vocational)
5. B.Sc.-II Year-Food Science
6. B.Sc.-II Year-Botany
7. B.Sc.-II Year-Horticulture
8. B.Sc.-II Year-Agro Chemical Fertilizers
9. B.Sc.-II Year-Analytical Chemistry
10. B.Sc.-II Year-Biochemistry
11. B.Sc.-II Year-Chemistry
12. B.Sc.-II Year-Dyes & Drugs Chemistry
13. B.Sc.-II Year-Industrial Chemistry
14. B.C.A. (Bachelor of Computer Application)-II Year
15. B.I.T. (Bachelor of Information Technology)-II Year
16. B.Sc.-II Year-Computer Science
17. B.Sc.-II Year-Network Technology
18. B.Sc.-II Year-Computer Application (Optional)
19. B.Sc.-II Year-Computer Science (Optional)
20. B.Sc.-II Year-Information Technology (Optional)
21. B.Sc.-II Year-Software Engineering
22. B.Sc.-II Year-Dairy Science
23. B.Sc.-II Year-Electronics
24. B.Sc.-II Year-Environmental Science
25. B.Sc.-II Year-Fishery Science
26. B.Sc.-II Year-Geology
27. B.Sc.-II Year-Mathematics
28. B.Sc.-II Year-Microbiology
29. B.Sc.-II year Agricultural Microbiology
30. B.Sc.-II Year-Physics
31. B.Sc.-II Year Statistics
32. B.Sc.-II Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**३३३**
दिनांक : १५.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS)
for
Faculty of Science and Technology
Under Graduate Program

SUBJECT: BOTANY

B. Sc. Second Year

With Effect from June 2020

Introduction:

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in the curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

Swami Ramanand Teerth Marathwada University has several initiatives towards academic excellence, quality improvement and administrative reforms. In view of this priority and in-keeping with Vision and Mission, process was already initiated towards introduction of semester system, grading system and credit system. University had implemented Choice Based Credit System (CBCS) pattern at UG level from the academic year 2016-2017 progressively.

Revision and updating of the curriculum is the continuous process to provide an updated education to the students at large. In view of this priority and in-keeping with Vision and Mission, process of revision and updating the curriculum is initiated and implemented at UG level from the academic year 2019-2020 progressively. Presently there is wide diversity in the curriculum of different Indian Universities which inhibited mobility of students in other universities or states. To ensure uniform curriculum at UG level , curriculum of different Indian Universities, syllabus of NET, SET, MPSC, UPSC, Forest Services and the UGC model curriculum are referred to serve as a base in updating the same.

The CBCS provides choice for students to select from the prescribed courses .The choice based credit system provides a ‘cafeteria’ type approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning. Our university has already introduced the choice based credit system. The semester system accelerates the teaching-learning process and enables vertical and horizontal mobility in learning.

Keeping in mind BoS in Botany prepared the curriculum to ensure up-to-date level of understanding of plant sciences. Studying plant sciences prepares the students for a career working either in an educational institution or an industry in which they can be directly involved in the research and development and Knowledge of modern and applied plant science and excellent career prospects.

The study of Botany aims to expand and increase current knowledge about plants in order to solve problems in many fields including agriculture, ecology, medicine, biotechnology and

horticulture are some of the objectives kept in mind during executing the syllabus.

How plants function at the cellular, tissue, organ, and organismal levels? How evolution of plants and how they contribute to biodiversity. How interactions with each other impacts their physical environment are the core objectives.

The addition of Skill enhancement courses aims to develop skills in plant sciences and practical experience in the students.

At the end of the curriculum, the student should have increased: an aptitude towards science and nature and also undertakes the fundamental and applied research in plant science in the benefit of the human and nature.

At last comments, suggestions are welcome from all the teachers, stakeholders and students for the upbringing the curriculum.

Salient Features:

The syllabus of B.Sc. S.Y. Botany has been framed to meet the requirement of Choice Based Credit System. The courses offered here Plant anatomy, Embryology, Plant physiology and Plant metabolism and Biochemistry will train and orient the students in the specific fields of Botany. This would help students to lay a strong foundation in the field of Botany.

The courses which deal with the environment, sustainability and ethics are Viruses, Bacteria Algae , Fungi , Lichens and Mycorrhiza, Plant Ecology , Phytogeography and Environmental Biology, Bryophytes, Pteridophytes Gymnosperms and Palaeobotany and Taxonomy of Angiosperms. These courses create awareness about conservation of biodiversity and its relevance with the socio-economical and environmental aspects. It also aims to make the students aware of bioethics, legislations and acts prevalent to control the degradation of our environment.

Overall after completion of this course, students will also acquire fundamental knowledge in Plant Science and also understand that Botany is an integral part of the human life and developments.

Skill Enhancement Courses offered during third year of this program are being designed with the aim of imparting specific skills to the students which will lead to the self-employability through development of their own enterprises.

Program Educational Objectives:

The Objectives of this program are:

PEO1: To provide an updated education to the students at large in order to know the importance and scope of the discipline and to provide mobility to students from one university or state to other.

PEO2: To update curriculum by introducing recent advances in the subject and enable the students to face NET, SET, UPSC and other competitive examinations successfully.

PEO3: To impart knowledge of plant science as the basic objective of Education.

PEO4: To develop a scientific attitude to make students open minded, critical and curious.

PEO5: To develop an ability to work on their own and to make them fit for the society.

PEO6: To expose themselves to the diversity amongst life forms.

PEO7: To develop skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of plant materials and data.

PEO8: To make aware of natural resources and environment and the importance of conserving the same.

PEO9: To develop ability for the application of the acquired knowledge in the fields of life so as to make our country self-reliant and self-sufficient.

PEO10: To appreciate and apply ethical principles to plant science research and studies.

Program Outcomes:

The Outcomes of this program are:

PO1: This program will train and orient the students in the field of diversity of different life forms, Plant Anatomy, Plant Embryology, Plant Physiology, Plant Metabolism and Biochemistry.

PO2: This program will help the students for their career development.

PO3: This program will provide updated curriculum with recent advances in the subject and enable the students to face NET, SET, UPSC and other competitive examinations successfully.

PO4: This program shall train and orient the students for laboratory skills and serve as human resource for the educational institutes, industries and other organizations.

PO5: The programme also has a strong interdisciplinary component. Emphasis is given on the experimental learning through hands-on laboratory exercises, field trips and assignments.

PO6: Students will be able to understand and explain different specializations of Botany such as anatomy, Embryology, developmental biology, physiology, biochemistry etc. Students will be

able to demonstrate the experimental techniques and methods in plant sciences and have innovative research ideas.

PO7: The programme will enlighten the current thrust areas of the subject and provide substantial exposure and skills in plant biology.

PO8: Skill Enhancement Courses being offered during this program will provide job opportunities and additional specific skills to the students for self-employability through the development of their own enterprises.

Prerequisite:

The optional courses are offered to the students registered for undergraduate programs. Such students should have the basic knowledge of Plant Science and willing to gain additional knowledge in the field of Botany.

Admissions to B. Sc. Program are given as per the University rules.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR
Under Graduate Course
Faculty of Science and Technology

SUBJECT: BOTANY

CLASS: B.Sc. SECOND YEAR

An Outline:

Semester/ Annual	Course No.	Course Name	Instructional Hrs/week	Total Periods	Marks for		Credits (Marks)
					Internal (CA)	External (ESE)	
Semester-III	**CCB-III (Section-A)**	**Theory Paper-VI:** Plant Anatomy	03	45	10	40	Credits: 02 (Marks:50)
	CCB-III (Section-B)	**Theory Paper-VII:** Plant Physiology and Biochemistry	03	45	10	40	Credits: 02 (Marks:50)
Semester-IV	**CCB-IV (Section-A)**	**Theory Paper-VIII:** Plant Embryology	03	45	10	40	Credits: 02 (Marks:50)
	CCB-IV (Section-B)	**Theory Paper-IX:** Plant Metabolism and Biotechnology	03	45	10	40	Credits: 02 (Marks:50)
Annual Pattern	**CCBP-II**	**Practical Paper-X:** Practicals based on CCB-III (Section-A) CCB-IV (Section-A)	03	16 Practicals	10	40	Credits: 02 (Marks:50)
	SECB-I	SEC- I A Fruit &Vegetable processing OR SEC-1 B Bioinstrumentation		45	25	25	Credits: 02 (Marks:50)
Annual Pattern	**CCBP-III**	**Practical Paper-XI:** Practicals based on CCB-III (Section-B) CCB-IV (Section-B)	03	16 Practicals	10	40	Credits: 02 (Marks:50)
	SECB-II	SEC- II A Nursery & Gardening OR SEC-II B Biofertizers	03	45	25	25	Credits: 02 (Marks:50)
Total Credits Semester-III and IV					Marks: 60+50= 110	Marks: 240+50= 290	Credits: 12+04=16 (Marks: 300+100 =400)

ESE : End Semester Examination, **CA** : Continues Assessment, **SECB**: Skill Enhancement Course Botany, **CCB**: Core Course Botany, **CCBP**: Core Course Botany Practical.

Distribution of Credits: 80 % of the total credits for the ESE and 20% for CA

CA of 10 Marks (Theory): 05 Marks for test & 05 Marks for Assignment

CA of 10 Marks (Practicals): 05 Marks for test & 05 Marks for Record Book, Submission of collection and field note and Excursion Report.

CA of 25 Marks: 15 Marks for Seminar & 10 Marks for Test

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS)
BOTANY
B.Sc. Second Year
Semester III
CCB-III (A)
Theory Paper- VI
Plant Anatomy

Periods 45 **Credits: 02**
Maximum Marks: 50

Learning Objectives:

1. To know about the internal structure of the most evolved group of plants, the Angiosperm.
2. To study cells, tissues, meristem, epidermal and vascular tissue system in plants.
3. To acquire knowledge of tissue systems, histology and growth pattern in plants.

Learning Outcomes:

1. The students will be able to understand the meristem (RAM & SAM) different simple and complex tissues and secondary growth in root and stem.
2. Students will acquire knowledge of anatomy of root, stem and leaf in dicot and monocot plants.

UNIT I: MERISTEMATIC TISSUE (10 Period)

Introduction and Scope of Plant Anatomy

Meristematic Tissues: Definition, classification based on origin, function, position and development, organization of root apical meristem (RAM) and shoot apical meristem (SAM), apical cell theory, Histogen theory and Tunica corpus theory.

Unit II : TISSUE SYSTEMS IN PLANTS (12 Period)

Simple Tissues: Parenchyma, Collenchyma, Sclerenchyma.

Complex tissues: Xylem and Phloem.

Secretory Structures in Plants: Laticiferous tissues (Latex cells and vessels), glandular tissues (External glands-digestive glands, nectary glands & internal glands-Oil glands, hydathodes)

Adaptive & Protective systems in plants: stomata, Epidermis, cutin, cuticle & other types of coverings, epidermal appendages.

UNIT III: ANATOMY -I (11 Period)

Vascular Bundles: Definition and types.

Primary structures:

Root anatomy of Monocotyledons (Maize) and Dicotyledons (Sunflower),

Stem anatomy of Monocotyledons (Maize) and Dicotyledons (Sunflower),

Leaf anatomy of Monocotyledons (Maize) and Dicotyledons (Sunflower),

Primary growth in roots and stems of plants.

UNIT IV: ANATOMY -II (12 Period)

Secondary Growth- Normal Secondary growth in root and stem of Dicotyledons (Sunflower),

Anomalous Secondary growth: *Achyranthes* stem, *Mirabilis*, *Bignonia* and *Dracaena* stem.

Wood Anatomy- Annual rings , Wood Elements, heartwood and sapwood, Springwood, Summer wood, Tension Wood, Economic importance of wood and wood elements, Dendrochronology.

Periderm: Development and composition of periderm, rhytidome and lenticels.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS)
BOTANY
B.Sc. Second Year
Semester III
CCB-III (B)
Theory Paper- VII
Plant Physiology and Biochemistry

Periods 45 **Credits: 02**
Maximum Marks: 50

Learning Objectives:

1. To make students realize how plants function, namely the importance of water, minerals, hormones, and light in plant growth and development; understand transport mechanisms and translocation in the phloem, applications of plant physiology.
2. To acquaint the students with the types and their functions of different biomolecules and secondary metabolites
3. To know the role of different plant growth regulators in plant physiology.

Learning Outcomes:

1. Students will gain the knowledge of water and nutrient uptake, movement in plants, role of mineral elements, translocation of sugars, Role of various plant growth regulators, phytochrome in plants.
2. Students shall learn different types of biomolecules and secondary metabolites
3. Students will learn the flowering physiology, vernalization and seed dormancy in plants.

UNIT-I: PLANT WATER RELATIONS (11 periods)

Physical aspects of water absorption – Diffusion, DP, DPD Imbibition Osmosis – OP, Exosmosis, Endosmosis, Plasmolysis ,Water potential ,Mechanism of water absorption by root – active and passive absorption

Ascent of sap: Introduction and mechanism (transpiration pull theory)

Transpiration: Definition, types, structure of stomata, mechanism of opening and closing of Stomata (starch-sugar theory and K+ pump theory), guttation, antitranspirants.

Plant movements: Introduction, classification, paratonic and nastic movements.

UNIT-II: MINERAL NUTRITION (11 periods)

Major and Minor elements: Introduction, source, deficiency symptoms and their role. Foliar nutrition , hydroponic technique.

Mineral salt absorption: Introduction, mechanism of passive absorption (ion exchange theory) and active absorption (carrier concept theory)

Translocation of organic solutes: Introduction, mechanism of translocation (Munch-Mass Flow hypothesis)

UNIT-III: GROWTH AND DEVELOPMENT (12 periods)

Growth and Plant growth regulators: Introduction, phases of growth, measurement of growth (Arc indicator and Pfeiffer's auxanometer), factors affecting growth.

Chemical nature and practical applications of Auxins, Gibberellins, Cytokinins, Abscisic Acid and Ethylene. Circadian Rhythms in plants.

Seed dormancy: Introduction, causes of seed dormancy and methods of breaking seed dormancy

Seed germination: Introduction, types and mechanism of seed germination,

Physiology of flowering: Introduction, Photoperiodism (LDP, SDP and DNP), Phytochrome, red and far red light responses on photomorphogenesis. Photo-morphogenesis: Photo receptors, phyto-chrome, crypto-chrome

Vernalization and devernalization: Introduction, mechanism and significance

UNIT-IV: BIOMOLECULES AND SECONDARY METABOLITES (10 periods)

Carbohydrates: Introduction, structure and classification, Monosaccharides, disaccharides and polysaccharides (starch and cellulose) biological functions of carbohydrates.

Protein- Introduction, classification and biological functions of Primary, secondary (α helix and β sheets), tertiary and quaternary structure of proteins

Lipids: Introduction, structure classification and biological functions of lipids.

Secondary metabolites: Biological functions of tannins, terpenoids, flavonoids, alkaloids, essential oils and organic acids

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS)
BOTANY
B.Sc. Second Year
Semester IV
CCB-IV (A)
Theory Paper- VIII
Plant Embryology

Periods 45 **Credits: 02**
Maximum Marks: 50

Learning Objective:

1.To study the flowering and fruiting, reproduction process, role of pollinators, ovule fertilization, Endosperm and seed development in angiosperms.

Learning Outcomes:

1. This course will be able to demonstrate foundational knowledge in embryology of plants.
2. Students will be able to understand the development of pollen, Ovule, and fertilization and palynological information.

UNIT I: EMBRYOLOGY (13 Periods)

Introduction- Definition and Scope,

Contribution of embryologists: W. Hofmeister, E. Strasburger, S.G. Nawaschin, P. Maheshwari, B.G.L. Swamy and B.M. Johri

Microsporangium- Structure of typical anther, T.S. of Anther, Microsporogenesis, Structure of Pollen grain, Development of male gametophyte, male sterility, Pollen germination, Pollen tube growth and guidance, Pollen storage, Pollen allergy, Pollen embryo. Brief account of Palynology

UNIT II: POLLINATION BIOLOGY (10 Periods)

Pollination, introduction, definition, Agents of pollination, mechanism of pollination in Salvia plant, types of pollination, self-pollination, cross pollination, adaptations (contrivances) in pollination

UNIT III: MEGASPORANGIUM AND FERTILIZATION –II (11 Period)

Megasporangium- Structure of typical ovule, L.S. Ovule, types of ovule (Orthotropous, Anatropous, Hemianatropous, Amphitropous, Camphylotropous and Circinotropous)

Megasporogenesis, structure of the embryo sac, Development of Monosporic (*Polygonum* type), Bisporic (*Allium* type) and Tetrasporic (*Adoxa* type) female gametophytes,

Fertilization- Double fertilization and triple fusion, Significance of fertilization

UNIT IV: EMBRYO AND ENDOSPERM (11 Period)

Endosperm- Definition and types of endosperms (Nuclear, Cellular and Helobial endosperm),

Embryo- Definition, Development of Dicot (Crucifer type) embryo and Monocot (Sagittaria type), Development of seed and Fruit (Post fertilization changes), Seed dispersal and Seed germination, Seed appendages, Endospermic and non-endospermic seeds.

A brief account of Polyembryony, Apomixis and Parthenocarpy

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS)
BOTANY
B.Sc. Second Year
Semester IV
CCB-IV (B)
Theory Paper- IX
Plant Metabolism and Biotechnology

Periods 45 **Credits: 02**
Maximum Marks: 50

Learning Objectives:

1. To study of different pathways in Photosynthesis , respiration , nitrogen metabolism
2. To gain the knowledge of basic aspects and applications of plant tissue culture
3. To study the different aspects of genetic engineering and bioinformatics

Learning Outcomes:

1. Students will be able to understand the various metabolic processes such as photosynthesis, respiration, Nitrogen metabolism etc. which are important for life.
2. Students shall be become familiar with the gene cloning and its transfer in plants
3. Students shall learn different databases and their applications

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UNIT-I: PHOTOSYNTHESIS & RESPIRATION (11 periods)

Photosynthesis: Introduction, ultra structure of chloroplast, photosynthetic pigments, concepts of two Photosystems, Mechanism of photosynthesis, Light reaction, Hill's reaction, Cyclic and Non-cyclic photophosphorylation, , Calvin cycle (C_3) and Hatch and Slack (C_4) pathway, CAM pathway, Significance of photosynthesis, photorespiration.
Respiration: Introduction, ultra structure of mitochondria, structure and functions of ATP, significance of respiration. Respiratory quotient (RQ)
Types of respiration:
Aerobic respiration- Glycolysis, Kreb's cycle, Electron Transport System. Anaerobic respiration- Fermentation (Alcoholic and Lactic acid)

UNIT-II: ENZYMES AND NITROGEN METABOLISM (11 periods)

Enzymes: Introduction, nomenclature and classification (IUB), mechanism of enzyme action (Lock and key model, induced fit model), Concept of holoenzyme, mechanism of regulation of Enzyme activity-Feedback and allosteric regulation.

Nitrogen metabolism: Introduction, types of nitrogen fixation- Physical and biological (Symbiotic and Asymbiotic), Ammonification, Nitrification and Denitrification, Nitrate reductase, Nitrogen cycle.

UNIT –III: BIOTECHNOLOGY-PLANT TISSUE CULTURE (12periods)

Introduction to Biotechnology, current uses of biotechnology,

Plant Tissue Culture: Introduction to plant tissue culture, totipotency of plant cells, basic aspects of tissue culture laboratory, nutrient media, composition and its preparation , Technique of plant tissue culture: selection and surface sterilization of explants, inoculation, incubation (temperature and light regime) ,Initiation of callus cultures and cell suspension cultures, Regeneration of plants (Organogenesis and embryogenesis).

Applications of tissue culture: Micropropagation, Production of disease free plants, production of secondary metabolites, Anther culture and production of haploids, protoplast culture and somatic hybridization, synthetic seeds

UNIT-IV: BIOTECHNOLOGY-GENETIC ENGINEERING (11 periods)

Introduction to genetic engineering ,tools and techniques and applications of recombinant DNA technology, Cloning vectors (Plasmid-PBR 322, Bacteriophage, Cosmid, Phagemid), Gene cloning, Genomic library and cDNA library, *Agrobacterium* mediated gene transfer, transgenic plants, Polymerase Chain Reaction and its applications.

Bioinformatics: Introduction, Biological database, NCBI, BLAST.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS) Pattern

B. Sc. Second Year

Annual Pattern

CCBP-II

PRACTICAL PAPER-X: BASED ON THEORY PAPERS-VI & VIII

Maximum Marks: 50

Practical Exercises:

1. Study of Meristematic tissues (Study of root apex and shoot apex) with the help of Slides/ Models/Charts/ Photocopies (2 practicals)
2. Study of tissues, Parenchyma, Collenchyma, Sclerenchyma, Xylem And Phloem (Permanent slides only) (2 practicals)
3. Maceration of tissues and the observation of sclereids- types, vessels- thickening
4. Study secretary tissues with the help of Slides/Models/Charts/ Photocopies
5. Study of Epidermal tissue system: stomata types; trichomes: non-glandular and glandular
6. Microtomy: dehydration, clearing and embedding of material, section cutting, dewaxing
7. Preparation of a double stained permanent slide of stem of *Maize, Sunflower, Achyranthus, Mirabilis, Bignonia* and *Dracaena*, for the study of internal structures (6 practicals)
8. Study of wood specimens for Heart wood ,sap wood etc.
9. Study of Leaf anatomy : Dicot and Monocot leaf (only Permanent slides)
10. Study of root anatomy: Monocot: *Zea mays*; Dicot: *Helianthus*; Secondary growth: *Helianthus* (only Permanent slides).
11. Study of T.S of anther with help of *Datura* flower
12. Mounting of pollen grains (available flowers only) *Ipomea, Vinca, Malvaceae* and Legume.

13. Study of Ovule/Types of ovules–Megasporogenesis and Female gametophyte (permanent slides/ Models)
14. Study of embryo and types of Endosperms (permanent slides/ Models/ Charts)
15. Study of Seed dispersal mechanisms (adaptations through photographs / specimens)
16. Field study of several types of flower with different pollination mechanisms (Wind pollination, thrips pollination, bee/butterfly pollination, bird pollination)
17. One short and one long Botanical excursion are compulsory

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)

Skeleton Question Paper

B. Sc. SECOND YEAR BOTANY

Annual Pattern

CCBP-II

PRACTICAL PAPER-X: BASED ON THEORY PAPER-VI & VIII

Time: Four hours **Maximum Marks: 40**

Note: - (i) Attempt all questions

(ii) Show your preparation to the examiner

(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Make a double stained permanent preparation of the given specimen-A. Identify and describe its internal structure. (*Maize stem / Sunflower stem / Mirabilis /Bignonia / Achyranthus* stem for specimen-A may be given alternately to the students) (10 marks)

Q2. Make a temporary preparation of (Maceration of tissues) given material and describe xylem elements (10 marks)

Q3. Describe T.S. Anther / L.S. Of Ovule with the help of given material (Flower) (08 marks)

Q4. Identify and describe the given spots (Histology & Anatomy - 2, Embryology -2) giving reasons (08 marks)

Q5. Viva-voce (04 Marks)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS) Pattern

B. Sc. Second Year

Annual Pattern

CCBP-III

PRACTICAL PAPER-XI: BASED ON THEORY PAPERS-VII & IX

Maximum Marks: 50

Practical Exercises:

1. To determine the water potential of potato tuber
2. To determine the osmotic potential of vacuolar sap by plasmolysis
3. To study the effect of temperature/ organic solvent/ concentration of different organic solvents on permeability of plasma membrane (Beet root) by using colorimeter / spectrophotometer.
4. Separation of photosynthetic pigments by paper chromatography.
5. To study the effect of light intensity on rate of photosynthesis.
6. Determination of RF value and identification of amino acids in a mixture.
7. Preparation of standard graph of starch/Glucose using Colorimeter/ Spectrophotometer and determination of starch / Glucose content of the given plant material.
8. Preparation of standard graph of protein using Colorimeter/ Spectrophotometer and determination of protein content from given plant material.
9. To estimate the percentage of oil content in given oil seeds using Soxhlet extractor.
10. Study of catalase activity under different pH and temperature.
11. To study the phenomenon of seed germination (effect of light and darkness).
12. Demonstration of osmosis by potato osmoscope.
13. Demonstration of Ascent of Sap by Balsam plant .
14. To study the mineral deficiency symptoms in at least four locally available plants.

15. Demonstrations of the Arc indicator (lever auxanometer), Clinostat (Geotropism), Kuhn's fermentation tube experiment (Requirements, procedure and workings of the same are expected).
16. Qualitative analysis of proteins (Biuret/ Xanthoproteic/ Millon tests), Carbohydrates (Molisch /Fehlings /Benedict's) Glucose, sucrose, starch, Cellulose and Pectin.
17. Qualitative test of tannin, terpenoids, saponins, flavonoids and alkaloids.
18. Micro chemical test for organic acids – Tartaric acid, Citric acid, Oxalic and Malic acid.
19. Study of tools used in Tissue culture laboratory for sterilization and inoculation. Principle and working of Autoclave, oven, incubator, Laminar Air flow,
20. Preparation of media for tissue culture.
21. Establishment of callus cultures –from carrot.
22. Different steps involved in genetic engineering for production of Bt. cotton, Golden rice, Flavr Savr tomato through photographs.
23. Study of methods of gene transfer through photographs: *Agrobacterium*-mediated gene transfer .
24. Study major biological databases.
25. Botanical Excursions (Two short excursions and one long excursion and visits to Research laboratories)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)

Skeleton Question Paper

B. Sc. Second Year

Annual Pattern

CCBP-III

PRACTICAL PAPER-XI: BASED ON THEORY PAPER-VII & IX

Time: Four hours **Maximum Marks: 40**

Note: - (i) Attempt all questions

(ii) Show your preparation to the examiner

(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Perform any one experiment (From practical exercise 1 to 6) (12 Marks)

Q2.Perform any one experiment (From practical exercise 7 to 11) (10 Marks)

Q3. Describe procedure and working of any one experiment (From practical exercise 12 to 15) (06 Marks)

Q4. Perform any four micro-chemical tests (Protein-1, carbohydrates-1, Secondary metabolites 1, Organic acids-1) (08 Marks)

Q5. Viva –Voce (04 Marks)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS)

Skeleton Question Paper

B. Sc. Second Year

Theory Paper

Time: 1 hour 30 min. **Maximum Marks: 40**

Note: - (I) Attempt all questions

(ii) Illustrate your answer with suitable labelled diagrams, wherever necessary

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Q1. Single long answer Type question 15 marks

OR

Two sub questions (a and b of 8 & 7 Marks) 15 marks

(This question will be based on any two units with equal weightage to each unit)

Q2. Single long answer Type question 15 marks

OR

Two sub questions (a and b of 8 & 7 Marks) 15 marks

(This question will be based on remaining two units with equal weightage to each unit excluding units used in question no 1)

Q3. Attempt any two of the four (Each of 05 Marks) 10 marks

a)

b)

c)

(Note: This question shall be on entire syllabus and must have one sub-question from each of the units)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

SUBJECT: BOTANY

B.Sc. Second Year

Annual Pattern

SECB-I (A) FRUIT AND VEGETABLE PROCESSING

Periods: 45 **Credits: 02 (Marks-50)**

UNIT I

Production and processing scenario of fruits and vegetables in India and World, Scope of fruit and vegetable preservation industry in India. Present status, constraints and prospects, Overview of principles and preservation methods of fruits and vegetables (Physical and Chemical), Commercial processing technology of fruits and vegetables, Primary processing and pack house handling of fruits and vegetables; Peeling, slicing, cubing, cutting and other size reduction operations for fruits and vegetables, Minimal processing of fruits and vegetables Blanching operations and equipment.

UNIT II

Preparation and preservation of juices, squashes, syrups, sherbets, nectars, cordials, etc; Problems on squash and RTS; Processing and equipment for above products and FSSAI specification Preparation, preservation and machines for manufacture of crystallized fruits and preserves, jam, jelly and candies, Preparation, preservation and machines for manufacture of preserve, concentrate, fruit wine, pickles, sauce, paste, ketchup; toffee, cheese, lather, soup powders; FSSAI specification, Commercial processing technology of selected fruits and vegetables for production of various value added processed products.

Practicals :

1. Preparation of jam/ jelly from selected fruit
2. Preparation of RTS beverage e.g. Amala, Mango and Pineapple etc
3. Preparation of squash
4. Preparation of fruit candy
5. Preparation of fruit leather
6. Preparation of fruit toffee
7. Preparation of pickle

8. Preparation of banana and potato wafers

9. Visit to fruits and vegetable processing unit

Note: Minimum of 5 practicals need to be conducted.

Reference Books

1. Fruit and Vegetable Preservation Principles and Practices: Srivastava R.P. and Sanjeev Kumar International Book Distributing Company, New Delhi 2005
2. Post-Harvest Technology of Fruits and Vegetables: Handling, Processing, Fermentation and Waste Management vol. I & II Varma L. R. and Joshi V.K. Indus Publishing, 2000
3. Preservation of Fruits and Vegetables: Khader ICAR, New Delhi 2010
4. Preservation of Fruits and Vegetable: G. Lal, G.S. Siddappa, G.L. Tandan ICAR Publication,, New Delhi 1996
5. Fruit and Vegetable Processing M.G. Danthy FAO, Rome
6. Post-harvest Handling and Processing of Fruit and Vegetable I.S. Singh Text book Fruit Processing David Arthey,
7. Handbook of Fruit and and Vegetable Processing Sinha and Hui John Wiley Sons, 2010
8. Fruit and Vegetable Preservation -Principles and Practices Srivastava RP & Kumar S International Book Distributors, 2003
9. Handbook of Fruit Science &Technology: Production, Composition and Processing. Salunkhe DK & Kadam SS. Marcel Dekker 1995

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

SUBJECT: BOTANY

B.Sc. Second Year

Annual Pattern

SECB-I (B) BIOINSTRUMENTATION

Periods: 45 **Credits: 02 (Marks-50)**

UNIT I

Chromatography and Centrifugation: General principles of separation, paper chromatography, thin layer, affinity, gel permeation, ion exchange, GLC, HPTLC, preparative and analytical centrifugations and their application

UNIT II

Electrophoresis and Spectroscopy: Basic principles of electrophoresis, Factor affecting, Electrophoretic mobility, native and denaturing PAGE, isoelectric focusing, 2DE, Pulse field gel, Electrophoresis. Spectroscopy: Theory and applications of Ultra violet and visible spectroscopy, IR, Nuclear magnetic resonance, Mass and applications.

Practicals

1. Centrifugation

a. Isolation of cell organelles like cell membrane, mitochondria, ribosomes etc.

b. Determination of molecular weight of protein by centrifugation

2. Chromatography

a. Separation of amino acids by paper chromatography

b. Separation of sugars by TLC

c. Separation of plant pigments by paper/ TLC

d. Purification of proteins by Column / ion exchange / Molecular sieve chromatography

3. Electrophoresis

a. Separation of soy bean proteins by PAGE

4. Spectroscopy

a. Validation of Lambert-Beer's law (Photometer)

b. Estimation of DNA by DPA method (UV spectrophotometer)

c. Estimation of reducing sugars by DNSA method (VIS-Spectrophotometer.)

Note: Minimum of 5 practicals need to be conducted.

Reference Books:

1. Practical Biochemistry Paperback – 2016 - Damodaran Geetha K

2. An Introduction to Practical Biochemistry Paperback –2017 - David Plummer

3. Practical Biochemistry Paperback –2013 - R. C. Gupta

4. Practical Biochemistry: A Student Companion Paperback –2015 - Tiwari Anand

5. Laboratory Manual for Practical Biochemistry Paperback – 2013 - Shivaraja Shankara Ym

6. A Text Book of Practical Biochemistry: 2006 - Rashmi A. Joshi, Manju Saraswat

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

SUBJECT: BOTANY

B.Sc. Second Year

Annual Pattern

SECB-II (A) NURSERY AND GARDENING

Periods: 45 **Credits: 02 (Marks-50)**

UNIT I

Nursery: definition, objectives and scope and building up of infrastructure for nursery, planning

and seasonal activities - Planting - direct seeding and transplants.

Vegetative propagation: air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings , Hardening of plants , green house , mist chamber, shed roof, shade house and glass house.

Gardening: definition, objectives and scope, different types of gardening , landscape and home gardening , parks and its components , plant materials and design , computer applications in landscaping, Landscaping highways and Educational institutions.

Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.

UNIT II

Ornamental Plants: Flowering annuals; Herbaceous perennials; Divine vines; Shade and ornamental trees; Ornamental bulbous and foliage plants; Cacti and succulents; Palms and Cycads; Ferns and Selaginellas; Cultivation of plants in pots; Indoor gardening; Bonsai, diseases and Pests of Ornamental Plants.

Principles of Garden Designs: English, Italian, French, Persian, Mughal and Japanese gardens; Features of a garden (Garden wall, Fencing, Steps, Hedge, Edging, Lawn, Flower beds, Shrubbery, Borders, Water garden). Some Famous gardens of India.

Practicals:

1. Preparation of nursery beds and sowing of seeds.
2. Study of Soil sterilization process
3. Seed sowing and transplantation methods

4. Study Garden tools and implements, Study of containers - earthen containers, pots, polybags, cement pots and ceramic pots.
5. Garden designing and hedge preparation methods
6. Identification of landscape trees, shrubs / climbers and ground covers.
7. Layout of land for lawn and Preparation of land for lawn.
8. Designing of home gardens
9. Identification and growing of indoor plants of their basic requirements
10. Patterns of flower arrangement in vase
11. Study of disease and pastes of ornamental plants
12. Visit to commercial nursery.

Note: Minimum of five practicals need to be conducted

References:

1. Agrawal, P.K. (1993). Hand Book of Seed Technology. New Delhi, Delhi: Dept. of Agriculture and Cooperation, National Seed Corporation Ltd.
2. Bose T.K., Mukherjee, D. (1972). Gardening in India. New Delhi, Delhi: Oxford & IBH Publishing Co.
3. Jules, J. (1979). Horticultural Science, 3rd edition. San Francisco, California: W.H. Freeman and Co.
4. Kumar, N. (1997). Introduction to Horticulture. Nagercoil, Tamil Nadu: Rajalakshmi Publications.
5. Musser E., Andres. (2005). Fundamentals of Horticulture. New Delhi, Delhi: McGraw Hill Book Co.
6. Sandhu, M.K. (1989). Plant Propagation. Madras, Bangalore: Wile Eastern Ltd.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

SUBJECT: BOTANY

B.Sc. Second Year

Annual Pattern

SECB-II (B) BIO-FERTILIZERS

Periods: 45 **Credits: 02 (Marks – 50**

UNIT 1

General account about the microbes used as biofertilizer – Rhizobium – isolation, identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.

Azospirillum: isolation and mass multiplication – carrier based inoculant, associative effect of different microorganisms. *Azotobacter:* classification, characteristics – crop response to *Azotobacter* inoculum, maintenance and mass multiplication. Cyanobacteria (blue green algae), *Azolla* and *Anabaena azollae* association, nitrogen fixation, factors affecting growth, blue green algae and *Azolla* in rice cultivation.

UNIT II

Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.

Organic farming – Green manuring and organic fertilizers, recycling of biodegradable municipal, agricultural and Industrial wastes – biocompost making methods, types and method of vermicomposting – field Application. Biofertilizers - Storage, shelf life, quality control and marketing.

Practicals:

1. Isolation of Phosphate solubilizing micro-organisms from rhizosphere
2. Isolation of Rhizobium from root nodules of leguminous crop
3. Isolation and purification of *Azotobacter* from soil
4. Isolation and purification of *Beijerinckia* form soil
5. Isolation of *Azospirillum*
6. Isolation Blue Green Algae from soil

7. Isolation of organic matter decomposing microorganisms
8. Mass multiplication of *Rhizobium, Azotobacter,* and *Azospirillum* inoculum
9. Production and application of blue green algae
10. Production of *Azolla* biofertilizers
11. Isolation of arbuscular mycorrhizal spores from rhizospheric soil
12. Methods of application of biofertilizers
13. Standards for commercial production of biofertilizers- Quality control of biofertilizers.

Note: Minimum of five practicals need to be conducted

References:

1. Bagyaraj, D.J. and A. Manjunath. 1990. Mycorrhizal symbiosis and plant growth, Univ. of Agricultural Sciences, Bangalore, India.
2. Krieg N.R. and J.G. Holt, 1984 Bergy's manual of systematic bacteriology, Williams and Witkins, Baltimore, U.S.A.
3. Purohit, S.S., P.R. Kothari and S.K. Mathur, 1993. Basic and Agricultural Biotechnology, Agro Botanical Pub. India.
4. Rangaswamy G. and D.J. Bhagyaraj 1988 Agricultural Microbiology, Oxford and IBH Publication Co. New Delhi.
5. Somani, L.L., S.C. Bhandari, K.K. Vyas and S.N. Saxena. 1990. Biofertilizers, Scientific Publishers - Jodhpur.
6. Subba Rao, Soil microorganisms - Oxford and IBH Publication Co. New Delhi.
7. Subba Rao, Advances in Agril. Microbiology, Oxford and IBH Publication Co, New Delhi.
8. Subba Rao, N. S. 1988. Biological nitrogen fixation: recent developments, Mohan Primlani for Oxford and IBH Pub. Co. (P) Ltd., India.
9. Subba Rao, N.S., G.S. Venkataraman and S. Kannaiyan 1993. Biological nitrogen Fixation, ICAR Pub., New Delhi.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

SUBJECT: BOTANY

B.Sc. Second Year

Annual Pattern

SECB-I &II

END OF SEMESTER EXAMINATION (ESE)

SEAT NO:

MARK SHEET

Sr. No.	END OF SEMESTER EXAMINATION (ESE)	Maximum Marks	Obtained Marks
1	Skill Work report submission	10	
2	Over all skill judgment	10	
3	Skill Work presentation	05	
Total		25	

Name & Signature of:

Examiner- 1:

Examiner- 2:

REFERENCES :

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- Bajracharya, D. 1999. Experiments in Plant Physiology: A Laboratory Manual. Narosa
- Becker, W.M., Kleinsmith, L.J., Hardin, J., Bertoni, G. P. (2009). The World of the Cell, 7thedition. San Francisco, Cambridge: Pearson Benjamin Cummings Publishing.
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- Bhojwani, S.S. and Bhatnagar, S.P. (2011). The Embryology of Angiosperms, Vikas Publishing House. Delhi. 5th edition.
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|| सा विद्या या विमुक्तये ||
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
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Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR
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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील B.Sc. Third Year Botany या विषयाचा CBCS Pattern नुसारचा सुधारित अभ्यासक्रम शैक्षणिक वर्ष २०१९—२० पासून लागू करण्याबाबत.

प रि प त्र क

(संदर्भ: परिपत्रक शैक्षणिक/०१/अभ्यासक्रमे/२०९, दिनांक २३/०६/२०१८)

या परिपत्रकान्वये सर्व संबधितांना कळविण्यात येते की, प्रस्तुत विद्यापीठांतर्गत विज्ञान व तंत्रज्ञान विद्याशाखेचा B.Sc. Third Year Botany या विषयाचा CBCS Pattern नुसारचा पदवी अभ्यासक्रम शैक्षणिक वर्ष २०१८—१९ पासून संदर्भीय परिपत्रकान्वये लागू करण्यात आला होता. सदर अभ्यासक्रमात काही सुधारण करण्यात आल्या असून हा अभ्यासक्रम शैक्षणिक वर्ष २०१९—२० पासून लागू करण्याच्या दृष्टीने मा. कुलगुरू महोदयानी मा. विद्या परिषदेच्या वतीने मान्यता प्रदान केली आहे.

सदरील परिपत्रक व सुधारित अभ्यासक्रम प्रस्तुत विद्यापीठाच्या www.srtmun.ac.in या संकेतस्थळावर उपलब्ध आहे. तरी ही बाब सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड — ४३१ ६०६.
जा.क्र.:शैक्षणिक—/०१/परिपत्रक/
पदवी—सीबीसीएस अभ्यासक्रम/२०१९—२०/१३९२
दिनांक : १९.०९.२०१९.

स्वाक्षरित/—
उपकुलसचिव
शैक्षणिक (१—अभ्यासमंडळ विभाग)

प्रत माहिती व पुढील कार्यवाहीस्तव :

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) मा. अधिष्ठाता विज्ञान व तंत्रज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.
४) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
७) सीनिअर प्रोग्रामर, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERISTY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR
Under Graduate Programme
Faculty of Science and Technology

SUBJECT : BOTANY

B.Sc. Third Year

With Effect from June 2019

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)

Introduction:

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in the curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

As a result, the grading system is considered to be better than the conventional marks system and hence it has been followed by our university. So, it is desirable to introduce uniform Choice Based Credit System CBCS system. This will facilitate student mobility across institutions, within and across countries and also enable potential employers to assess the performance of students.

The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses). The choice based credit system provides a 'cafeteria' type approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning. Our university has already introduced the choice based credit system. The semester system accelerates the teaching-learning process and enables vertical and horizontal mobility in learning.

Keeping in mind BoS in Botany prepared the curriculum to ensure up-to-date level of understanding of plant sciences. Studying plant sciences prepares the student for a career working in either an educational institution or an industry in which you can be directly involved in the research and development and Knowledge of modern and applied plant science and excellent career prospects.

The study of Botany aims to expand and increase current knowledge about plants in order to solve problems in many fields including agriculture, ecology, medicine, biotechnology and horticulture. These are some of the objectives kept in mind during drafting the syllabi.

How plants function at the cellular, tissue, organ, and organismal levels? How evolution of plants and how they contribute to biodiversity. How interactions with each other impact their physical environment are the core objectives.

The addition of Skill enhancement course aims to develop skills in plant sciences and practical experience to the students.

At the end of the curriculum, the student should have increased an aptitude towards science and nature , undertakes the fundamental and applied research in plant science for the benefit of the human and nature.

At last comments, suggestions are welcome from all the teachers, stakeholders and students for the upbringing the curriculum.

Salient Features :

The syllabus of B Sc IIIrd year Botany has been framed to meet the requirement of Choice based Credit System. The courses offered here in will train and orient the students in the field of Botany.

The Section A of DSEB deals with Plant Physiology, Plant Metabolism, Biochemistry and Biotechnology. The Section B of DSEB with choice provides an option to learn courses like Plant Pathology-I & II, Systematic Botany-I & II and Herbal Technology-I & II.

This would help students to lay a strong foundation in the field of Botany.

Overall after completion of this course, students will also acquire fundamental knowledge in Plant Science and also understand that Botany is an integral part of the human life and developments.

Skill Enhancement Courses like Fruit and vegetable processing, Herbal drug technology, Floriculture, Bioinstrumentation, Medicinal plant product preparation skill, Fungal biomass production skill (Mushroom cultivation), Fungal biomass production for biocontrol and Algal biomass production skill (*Spirulina* cultivation) offered during this program are designed with the aim of imparting specific skills to the students which will lead to the self employability through development of their own enterprises.

Utility of Course

This program will train and orient the students in the field of Genetics and Molecular Biology , Plant Breeding , Diversity of Plants, Anatomy and Embryology of Angiosperms, Environmental Biology, Plant Physiology, Biochemistry and Biotechnology, Plant Pathology, Systematic Botany and Herbal Technology in relation to Environment and Agriculture as well as Biotechnological, Pharmaceutical and Herbal Industries. This will help the students for their career development.

Skill Enhancement Courses offered during this program will provide additional specific skills to the students for self employability through the development of their own enterprises.

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Learning Objectives :

The Objective of this program are :

1. To provide an updated education to the students at large in order to know the importance and scope of the discipline and to provide mobility to students from one university or state to other.

2. To update curriculum by introducing recent advances in the subject and enable the students to face NET, SET, UPSC and other competitive examinations successfully.

3. To impart knowledge of plant science as the basic objective of Education.

4. To develop a scientific attitude to make students open minded, critical and curious.

5. To develop an ability to work on their own and to make them fit for the society.

6. To expose themselves to the diversity amongst life forms.

7. To develop skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of plant materials and data.

8. To make aware of natural resources and environment and the importance of conserving the same.

9. To develop ability for the application of the acquired knowledge in the fields of life so as to make our country self reliant and self sufficient.

10. To appreciate and apply ethical principles to plant science research and studies.

Prerequisite :

The optional courses are offered to the students registered for undergraduate programs. Such students should have the basic knowledge of Plant Science and willing to gain additional knowledge in the field of Botany.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERISTY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR
Under Graduate Programme
Faculty of Science and Technology

SUBJECT : BOTANY

Class : B.Sc. Third Year

An Outline:

Semester/ Annual	**Course No**		**Name of the Course**	**Total Periods (Periods/ Week)**	**Marks for**		**Credits (Marks)**
					External (ESE)	**Internal (CA)**	
Semester-V	DSEB-I	Section -A	Theory Paper-XII: Plant Physiology	45 (03/week)	40	10	Credits:02 (Marks: 50)
		Section -B	Theory Paper-XIII: **B I:** Plant Pathology-I OR **B II:** Systematic Botany-I OR **B III:** Herbal Technology-I	45 (03/week)	40	10	Credits:02 (Marks: 50)
Semester-VI	DSEB-II	Section -A	Theory Paper-XIV: Plant Metabolism, Biochemistry and Biotechnology	45 (03/week)	40	10	Credits:02 (Marks: 50)
		Section -B	Theory Paper-XV: **B I:** Plant Pathology-II OR **B II:**	45 (03/week)	40	10	Credits:02 (Marks: 50)

			Systematic Botany-II OR **B III:** Herbal Technology-II				
Annual Pattern	DSEBP-I (DSEB I & II Section A)	--	Practical Paper XVI: Practicals based on theory papers-XII & XIV	16 Pract. (03/week/ Batch)	40	10	Credits:02 (Marks: 50)
	SECB III	--	SEC- III A Or B	01 Skill (03/week/ Batch)	25	25	Credits:02* (Marks: 50)
Annual Pattern	DSEBP-II (DSEB I & II Section B)	--	Practical Paper XVII: Practicals based on theory papers-XIII & XV	16 Pract. (03/week/ Batch)	40	10	Credits:02 (Marks: 50)
	SECB IV	--	SEC- IV A OR B	01 Skill (03/week/ Batch)	25	25	Credits:02* (Marks: 50)
Total Credits Semester –V & VI					240+50 = 290	60+50 =110	Credits:12+4* = 16 (Marks: 300+100* = 400)

ESE : End Semester Examination, **CA** : Continues Assessment, **SECB**: Skill Enhancement Course Botany, **DSEB**: Discipline Specific Elective Botany, **DSEBP**: Discipline Specific Elective Botany Practical

Distribution of Credits: 80 % of the total credits for the ESE and 20% for CA

CA of 10 Marks (Theory) : 05 Marks for test & 05 Marks for Assignment

CA of 10 Marks (Practicals): : 05 Marks for test & 05 Marks for Record Book ,Submission of collection and field note and Excursion Report.

CA of 25 Marks : 15 Marks for Seminar & 10 Marks for Test

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. T.Y.
Semester – V
DSEB-I
Theory Paper –XII : Plant Physiology
(Compulsory)

Periods – 45 **Maximum Marks – 50**

UNIT-I: PLANT WATER RELATIONS (11 periods)

Importance of water in plant life

Different bio-physico-chemical phenomenon: Permeability, Diffusion, Osmosis,Plasmolysis and Imbibition.
Ascent of sap: Introduction and mechanism (transpiration pull theory),
Transpiration: Definition, types, structure of stomata, mechanism of opening and closing of stomata (starch-sugar theory and K+ pump theory.
Plant movements: Introduction, classification, paratonic and nastic movements.

UNIT-II: MINERAL NUTRITION (11 periods)

Major and Minor elements: Introduction, source, deficiency symptoms and their role.
Mineral salt absorption: Introduction, mechanism of passive absorption (ion exchange theory) and active absorption (carrier concept theory)
Translocation of organic solutes: Introduction, mechanism of translocation (Munch-Mass flow hypothesis)

UNIT-III: GROWTH AND DEVELOPMENT (12 periods)

Growth and Plant growth regulators: Introduction, phases of growth, measurement of growth (arc indicator and Pfeiffer's auxanometer), factors affecting growth, Chemical nature and practical applications of Auxins, gibberellins, cytokinins, abscisic acid and ethylene.
Seed dormancy: Introduction, causes of seed dormancy and methods of breaking seed dormancy
Seed germination: Introduction, types and mechanism of seed germination,
Physiology of flowering: Introduction, Photoperiodism (LDP, SDP and DNP),
Vernalization and devernalization: Introduction, mechanism and significance,

UNIT-IV: BIOMOLECULES AND SECONDARY METABOLITES (11 periods)

Biomolecules:
Carbohydrates: introduction, structure and classification, Monosaccharides, disaccharides and polysaccharides (starch and cellulose)
Protein- Introduction, classification and biological functions of Primary, secondary (α helix and β sheets), tertiary and quaternary structure
Lipids: Introduction, structure classification and biological functions of lipids

Secondary metabolites: Biological functions of tannins, terpenoids, flavonoids, alkaloids, essential oils and organic acids

Theory paper-XII: Plant physiology (Compulsory)-Unit wise distribution of periods and marks

Unit	Title	Periods Allotted	Maximum Marks
I	Plant Water Relations	11	20
II	Mineral Nutrition	11	20
III	Growth and Development	12	20
IV	Biomolecules and Secondary Metabolites	11	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – V
Theory Paper-XII

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit
Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)
Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)
Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)
Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. T.Y.
Semester – V
DSEB-I
Theory Paper –XIII

SEMESTER-V (OPTIONAL-I)
PLANT PATHOLOGY-I (B-I)

Periods – 45 **Maximum Marks – 50**

UNIT-I : FUNDAMENTALS OF PLANT PATHOLOGY *(11 periods)*
Scope, importance, history and advancement of plant pathology, classification of plant diseases on the basis of causal organism and symptoms, field and laboratory diagnosis- Isolation of plant pathogens from infected plant parts, soil and air, Pure culture technique, Koch's postulates for pathogenicity.

UNIT-II : PLANT DISEASE DEVELOPMENT *(11 periods)*
Disease development- Mode of entry of pathogens (through stomata, wounds, root hairs and buds), Factors affecting disease development- Temperature, moisture, wind and soil pH, Dispersal of plant pathogens (by air, water, insects and animals), chemical weapons of pathogen: enzymes, toxins and growth regulators..

UNIT-III : PLANT DISEASES-I *(12 periods)*
Symptoms, causal organisms, disease cycle and control measures of Green ear of Bajra, leaf spot of tomato, Grain smut of Jowar, Red rot of Sugarcane, Angular leaf spot of cotton, , Bacterial blight of Pomegranate, Anthracnose of mango

UNIT-IV : PLANT DISEASES-II *(11 periods)*
Symptoms, causal organisms, disease cycle and control measures of White rust of Mustard, Whip smut of Sugarcane, Powdery mildew of pea, Leaf spot of Turmeric (*Colletotrichum capsci*), Citrus canker, Sigatoka disease of Banana, leaf blight of Rice.

Theory paper-XIII: B-I - Plant pathology-I (Optional) **– Unit wise distribution of periods and marks :**

Unit	Title	Periods Allotted	Maximum Marks
I	Fundamentals of Plant Pathology	11	20
II	Plant Disease Development	11	20
III	Plant Diseases-I	12	20
IV	Plant Diseases-II	11	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – V, Plant Pathology-I (Optional-I)
Theory Paper-XIII

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit

Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)

Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)

Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)

Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. T.Y.
Semester – V
DSEB-I
Theory Paper –XIII
SEMESTER-V (OPTIONAL-II)
SYSTEMATIC BOTANY-I (B-II)

Periods – 45 **Maximum Marks – 50**

UNIT –I: CLASSIFICATION *(11 periods)*
Introduction- Definition, aims, scope and application of angiosperms taxonomy, Types of classification- Artificial, Natural and Phylogenetic, Outline of Bentham and Hooker, Engler and Prantl and Hutchinson's systems of classification of angiosperms with merits and demerits

UNIT –II: PRINCIPLES OF TAXONOMY *(10 periods)*
ICN (International Code of Nomenclature)-Brief history, principle of priority, effective and valid publication, typification and author citation, Species concept- Morphological and biological, Role of phytochemistry, cytology, anatomy and palynology in relation to taxonomy.
Pollen morphology with reference to pollen grains of *Hibiscus, Ipomoea* and Grasses

UNIT –III: STUDY OF DICOT FAMILIES- I (Polypetalae) *(12 periods)*
Study of following families according to Bentham and Hooker's system of classification with reference to general characters, pollination, floral formulae, floral diagrams, systematic position, distinguishing features and economic importance
Papaveraceae, Mimosaceae, Combretaceae, Myrtaceae, Rutaceae, , Cucurbitaceae Nyctaginaceae (Monochlamydeae)

UNIT –IV: STUDY OF DICOT FAMILIES-II (Gamopetalae) *(12 periods)*
Study of following families according to Bentham and Hooker's system of classification with reference to general characters, pollination, floral formulae, floral diagrams, systematic position, distinguishing features and economic importance
Rubiaceae, Apocynaceae, Convolvulaceae, Bignoniaceae, Acanthaceae, Verbenaceae,

Theory paper-XIII: B-II - Systematic Botany-I (Optional-II) - **Unit wise distribution of periods and marks:**

Unit	Title	Periods Allotted	Maximum Marks
I	Classification	11	20
II	Principles of taxonomy	10	20
III	Study of Dicot families-I	12	20
IV	Study of Dicot Families-II	12	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – V , Systematic Botany-I (Optional-II)
Theory Paper-XIII

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit

Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)

Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)

Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)

Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for
BOTANY
B.Sc. T.Y.
Semester – V
DSEB-I
Theory Paper –XIII

SEMESTER-V (OPTIONAL-III)
HERBAL TECHNOLOGY-I (B-III)

Periods – 45 **Maximum Marks – 50**

UNIT-I: MEDICINAL AND AROMATIC PLANTS (MAP) (11 periods)

Introduction, History, importance, demand and supply of MAP in India, Indian systems of medicine- Ayurvedic, Unani, homeopathic, siddha, yoga and naturopathy, tribal medicine sources, Herbal sources, Animal sources, Mineral sources, their collection, purification and processing.

UNIT-II: CRUDE PLANT DRUGS (11 periods)

Definition, Classification- Alphabetic, taxonomic, morphological, chemical, pharmacological and Chemotaxonomic, Methods of cultivation and factors affecting the cultivation of drug plants, Collection, harvesting, drying and storage of crude drugs, organized crude drugs- Leaves, stem, Flowers, fruits, seeds, barks, underground and entire plant drugs, Unorganized drugs- Gums, Mucilage, resins, dried juices, latex and extracts

UNIT-III: PHARMACOGNOTIC STUDIES (11 periods)

Distribution, morphology, anatomical, chemical constituents and uses of Root drugs- Shatavari, Ashwagandha, Stem drugs- Ginger, turmeric, Gulvel, Chandan, Leaf drugs- Adulsa, Korphad (*Aloe*), Fruit drugs- Behda, Hirda and Entire plant drugs- Tulsi and Aghada

UNIT-IV: MEDICINAL PLANT BIOTECHNOLOGY AND STANDARDIZATION OF DRUGS (12periods)

Genetics as applied to medicinal herbs and transgenic plants, Plant tissue culture as source of biomedicines, Importance of drug standardization, Problems of standardization of herbs, Drug adulteration, Methods of drug evaluation- Morphological, microscopic, chemical, physical and Biological. Tissue culture of medicinal important plants, secondary metabolites production (Alkaloids, Flavonoids)

Theory paper-XIII: B-III- Herbal technology-I (Optional-IV) - **Unit wise distribution of periods and marks:**

Unit	Title	Periods Allotted	Maximum Marks
I	Medicinal and Aromatic Plants (Map)	11	20
II	Crude Plant Drugs	11	20
III	pharmacognostic studies	11	20
IV	Medicinal Plant Biotechnology and Standardization of Drugs	12	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – V , Herbal Technology-I (Optional-III)
Theory Paper-XIII

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit

Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)

Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)

Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)

Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. T.Y.
Semester – VI
DSEB -II
Theory Paper –XIV : Plant Metabolism,
Biochemistry and Biotechnology
(Compulsory)

Periods – 45 **Maximum Marks – 50**

UNIT-I: PHOTOSYNTHESIS AND RESPIRATION (12 periods)

Photosynthesis: Introduction, significance, ultra structure of chloroplast, photosynthetic pigments, concepts of two Photo systems, Mechanism of photosynthesis, Light reaction, Hill reaction, Cyclic and Non cyclic photophoshorylation, Dark phase, Calvin cycle (C3) and Hatch and Slack (C4) pathway, CAM pathway

Respiration: Introduction, significance, ultra structure of mitochondria, structure and functions of ATP, **Types of respiration**:

Aerobic respiration- Glycolysis, Kreb's cycle, Electron Transport System.

Anaerobic respiration- Fermentation (alcoholic and lactic acid)

UNIT-II: : ENZYMES AND NITROGEN METABOLISM (11 periods)

Enzymes: Introduction, nomenclature and classification (IUB), mechanism of enzyme action (lock and key model, induced fit model), Concept of holoenzyme, mechanism of regulation of enzyme activity-Feedback and allosteric regulation.

Nitrogen metabolism: Introduction, sources and forms of nitrogen, types of nitrogen fixation-physical and biological (symbiotic and asymbiotic), Ammonification, nitrification and denitrification

UNIT –III: BIOTECHNOLOGY (11periods)

Tissue culture: Introduction and basic aspects of tissue culture, media, culture techniques, cellular totipotency.

Applications of tissue culture: Micropropagation, Production of disease free plants, production of secondary metabolites, Anther culture and production of haploids, protoplast culture and somatic hybridization, synthetic seeds

UNIT-IV: GENETIC ENGINEERING (11 periods)

Introduction, tools and techniques of recombinant DNA technology, Cloning vectors, Gene cloning, Genomic library and cDNA library, *Agrobacterium* mediated gene transfer, transgenic plants.
Bioinformatics: Introduction, Biological database, NCBI, BLAST.

Theory paper-XIV: Plant metabolism, biochemistry and biotechnology (Compulsory) - Unit wise distribution of periods and marks:

Unit	Title	Periods Allotted	Maximum Marks
I	Photosynthesis and Respiration	12	20
II	Enzymes and Nitrogen Metabolism	11	20
III	Biotechnology	11	20
IV	Genetic Engineering	11	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – VI
Theory Paper-XIV

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit
Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)
Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)
Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)
Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. T.Y.
Semester – VI
DSEB -II
Theory Paper –XV

SEMESTER-VI (OPTIONAL-I)
PLANT PATHOLOGY-II (B-I)

Periods – 45 Maximum Marks – 50

UNIT-I : AEROBIOLOGY AND SEED PATHOLOGY *(11 periods)*
Aerobiology- Definition, scope and importance and disease forecasting, Seed pathology- Definition, seed borne pathogens (external and internal) detection of seed borne pathogens by blotter paper and agar plate methods, seed treatment (hot water, solar, chemical) and seed certification.

UNIT-II : DEFENSE MECHANISM AND PLANT DISEASE MANAGEMENT *(11 periods)*
Structural (pre-existing and Post infectional) and biochemical defense-pre-existing and Post infectional (phytoalexins) Exclusion and eradication, Chemical control- General account of Sulphur, Copper, systemic fungicides and antibiotics, Biological control.

UNIT-III : PLANT DISEASES-I *(11 periods)*
Symptoms, causal organisms, disease cycle and control measures of Tikka disease of groundnut, Ergot of Bajra, Loose smut of Wheat, Rust of Jowar, Phanerogamic parasites(Cuscuta), Leaf curl of tomato.

UNIT-IV : PLANT DISEASES-II *(12 periods)*
Symptoms, causal organisms, disease cycle and control measures of Downy mildew of Grape, Stem rust of Wheat, Wilt of Tur, late blight of Potato, Grassy shoot of Sugarcane, Papaya mosaic, Rust of Soybean, Leaf spot of cabbage.

Theory paper-XIII: B-I- Plant pathology-II (Optional-I) **– Unit wise distribution of periods and marks :**

Unit	Title	Periods Allotted	Maximum Marks
I	Aerobiology and Seed Pathology	11	20
II	Defense Mechanism and Plant Disease Management	11	20
III	Plant Diseases-I	11	20
IV	Plant Diseases-II	12	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – VI, Plant Pathology-II (Optional-I)
Theory Paper-XV

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit

Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)

Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)

Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)

Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for
BOTANY
B.Sc. T.Y.
Semester – VI
DSEB- II
Theory Paper –XV

SEMESTER-VI (OPTIONAL-II)
SYSTEMATIC BOTANY-II (B-II)

Periods – 45 **Maximum Marks – 50**

UNIT –I: STUDY OF MONOCOT FAMILIES-I *(12 periods)*
Study of following families according to Bentham and Hooker's system of classification with reference to general characters, pollination, floral formulae, floral diagrams, systematic position, distinguishing features and economic importance
Musaceae, Zingiberaceae, Cannaceae Amaryllidaceae

UNIT –II: STUDY OF MONOCOT FAMILIES-II *(12 periods)*
Study of following families according to Bentham and Hooker's system of classification with reference to general characters, pollination, floral formulae, floral diagrams, systematic position, distinguishing features and economic importance
Orchidaceae, Commelinaceae, Cyperaceae, palmaceae

UNIT –III: TAXONOMIC TOOLS *(10 periods)*
Herbarium- Techniques of plant preservation, Importance of herbarium, Botanical gardens- Role in plant taxonomy, Important Botanical gardens, Plant identification key-Types and use

UNIT –IV: ORIGIN OF ANGIOSPERMS *(11 periods)*
Place and Time of origin of angiosperms, Probable ancestors of Angiosperms: Benettitalean theory, Gnetalean theory, Pteridosperm theory

Theory paper-XV: B-II-Systematic Botany-II (Optional-II) - **Unit wise distribution of periods and marks:**

Unit	Title	Periods Allotted	Maximum Marks
I	Study of Monocot families	12	20
II	Study of Monocot families	12	20
III	Taxonomic tools	10	20
IV	Origin of angiosperms	11	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – VI ,Systematic Botany- II
Theory Paper-XV Optional -II

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit
Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)
Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)
Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)
Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. T.Y.
Semester – VI
DSEB -II
Theory Paper –XV

SEMESTER-VI (OPTIONAL-III)
HERBAL TECHNOLOGY-II (B-III)

Periods – 45 ***Maximum Marks – 50***

UNIT-I: HERBAL FORMULATION (11periods)

Steps of herbal formulation- Grinding, extraction, filtration, concentration, Dosage forms- Infusion, decoction, tincture, capsule, medicated wines, syrups, tablets, ointment and creams, Comparative study of- Ayurvedic and modern dosage forms. Preparation and therapeutic uses of Triphalachurna, Kumariasav, Arjunarishtha (Aristha), Gooti, Vatti and Telam

UNIT-II: DRUG CONSTITUENTS AND BIOSYNTHETIC PATHWAY. (11periods)

Introduction, occurrence and chemistry and Biosynthetic pathway of glycosides, alkaloids and steroids Flavinoids. Alkaloid: Reserpine, Morphin. Glycosides: Glycyrrhizin, Digitoxin. Steroids: Withanoloids. Flavonoids: Quercetin, Ritin. Carotenoids: Lycopene-carotene.

UNIT-III: ANALYTICAL AND CHROMATOGRAPHIC TECHNIQUES. (11 periods)

Principles and applications of spectral techniques in drug analysis: Colorimeter, UV-visible spectrophotometer, IR and NMR spectroscopy, paper chromatography, TLC, HPTLC, column and GC chromatography.

UNIT-IV: HERBAL COSMETICS (12 periods)

Classification of cosmetics, brief account of raw material used for cosmetic preparation, stability testing of herbal cosmetics, quality control and packaging of cosmetics. Study and preparation of skin care product (moisturizing creams and anti-ageing cream, hair care product (Hair oil, shampoos)

Theory paper-XV: B-III- Herbal technology-II (Optional-IV) - **Unit wise distribution of periods and marks:**

Unit	Title	Periods Allotted	Maximum Marks
I	Herbal Formulation	11	20
II	Drug Constituents and Biosynthetic pathways	11	20
III	Analytical Chromatographic Techniques	11	20
IV	Herbal cosmetics	12	20
	Total	**45**	**80**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. Third Year
Semester – VI, Herbal Technology-II (Optional-III)
Theory Paper-XV

Time: TWO hours Maximum Marks: 40

Note: - (i) Attempt all questions
(ii) All questions carry equal marks
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Attempt any Four of the following (Each of 02 Marks) 08
a)
b)
c)
d)
e)
f)
(Based On Unit I, II, III, IV) Minimum one and maximum two from each Unit
Q2. Attempt any Two of the following (Each of 04 Marks) 08
a)
b)
c)
(Based On Unit I, II)
Q3. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit I, II)
Q4. Attempt any Two of the following (Each of 04 Marks) 08

a)
b)
c)
(Based On Unit III, IV)
Q5. Attempt any One of the following (Each of 08 Marks) 08
a)
b)
(Based On Unit III, IV)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS) Pattern

B. Sc. THIRD YEAR

Annual Pattern

PRACTICAL PAPER-XVI: BASED ON THEORY PAPERS-XII & XIV

(Compulsory)

Practicals Maximum Marks – 50

Practical Exercises:

1. To determine the water potential of potato tuber
2. To determine the osmotic potential of vacuolar sap by plasmolysis
3. To study the effect of temperature on permeability of plasma membrane (Beet root) by using colorimeter / spectrophotometer
4. To study the effect of concentration of different organic solvents on permeability of plasma membrane (Beet root) by using colorimeter/spectrophotometer
5. To study the effect of different organic solvents on permeability of plasma membrane (Beet root) by using colorimeter/ spectrophotometer
6. Separation of photosynthetic pigments by paper chromatography
7. To study the effect of light intensity on rate of photosynthesis
8. Determination of RF value and identification of amino acids in a mixture
9. Preparation of standard graph of starch using Colorimeter/ Spectrophotometer and determination of starch content of the given plant material
10. Preparation of standard graph of glucose using Colorimeter/ Spectrophotometer and determination of glucose content of the given plant material
11. Preparation of standard graph of protein using Colorimeter/ Spectrophotometer and determination of protein content from given plant material
12. To estimate the percentage of oil content in given oil seeds using Soxhlet extractor.
13. Study of catalase activity under different pH
14. Study of catalase activity under different temperature
15. Demonstration of osmosis by potato osmoscope
16. To study the mineral deficiency symptoms in at least four locally available plants
17. Demonstrations of the Arc indicator (lever auxanometer), Clinostat (Geotropism),Kuhn's fermentation tube experiment (Requirements, procedure and workings of the same are expected)
18. Study of tools used in GE/ Tissue culture laboratory for sterilization and inoculation. Principle and working of Autoclave, oven, incubator, Laminar Air flow, Inoculating chamber, callus culture, plantlet, Anther culture and protoplast culture
19. Study major biological databases
20. Study of gene sequence in FASTA Format
21. Qualitative analysis of proteins (Biuret/ Xanthoproteic/ Millon tests)
22. Qualitative analysis of Carbohydrates (Molisch /Fehlings /Benedict's) Glucose, sucrose, starch, Cellulose and Pectin
23. Qualitative test of tannin, terpenoids, saponins, flavonoids and alkaloids
24. Micro chemical test for organic acids – Tartaric acid, Citric acid, Oxalic and Malic acid
25. Botanical Excursions (Two short excursions and one long excursion and visits to laboratories /

companies/ factory etc.)

Note: Minimum of 16 practicals need to be conducted as per the question paper format

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)

Skeleton Question Paper
B. Sc. THIRD YEAR BOTANY
DSEBP-I Annual Pattern
PRACTICAL PAPER-XVI: BASED ON THEORY PAPER-XII & XIV
(Compulsory)

Time: Four hours Maximum Marks: 40

Note: -
(i) Attempt all questions
(ii) Show your preparation to the examiner
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Perform any one experiment (From practical exercise 1 to 5) /

Perform any one experiment (From practical exercise 6 to 13) (12 marks)

Q2. Describe procedure and working of any one experiment (From practical exercise 14 to 17) (10 marks)

Q3. Perform any four micro-chemical tests (Protein-1, carbohydrates-1, Secondary metabolites-1, Organic acids-1) (10 marks)

Q4. Spotting- Four spots (Instrument- 1, Callus/ Anther/ Protoplast culture- each 1) (04 marks)

Q5. Viva –Voce (04 marks)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS) Pattern

B. Sc. THIRD YEAR

Annual Pattern

PRACTICAL PAPER-XVII: BASED ON THEORY PAPERS-XIII & XV

PLANT PATHOLOGY –I & II (Optional –I)

Practicals Maximum Marks – **50**

Practical Exercises:

1. Study of laboratory equipment's- Autoclave, Hot air oven, inoculating chamber, laminar air flow, Air sampler, Incubator, Centrifuge (1 practical)
2. Preparation of culture media – PDA, NA (1 Practical)
3. Micrometry- Calibration of microscope and measurement of fungal spores (1 practical)
4. Isolation of fungal pathogens from diseased plant parts, Toxins & Enzymes (1 practical)
5. Isolation and identification of seed-borne pathogen by blotter / agar plate method (1 Practical)
6. Study of air – borne pathogen by exposed petri plates / air sampler (2 Practical)
7. Proving of pathogenicity (1 Practical)
8. Effect of pH on growth of pathogens (1 Practical)
9. Effect of Temperature on growth of pathogens (1 Practical)
10. Study of symptoms and causal organisms of Stem rust of wheat (1 Practical)
11. Study of symptoms and causal organisms of Late blight of potato and Downy mildew of grapes (1 Practical)
12. Study of symptoms and causal organisms of Tikka disease of groundnut & Anthracnose of guava (1 Practical)
13. study of symptoms and causal organisms of Early Blight of tomato and leaf spot of turmeric (1 Practical)
14. Study of symptoms and causal organisms of Rust of Jowar and Grain smut of Jowar (1 practical)
15. Study of symptoms and causal organisms of Loose smut of Wheat, & leaf blight of rice (1 Practical)
16. Study of symptoms and causal organisms of Green ear and ergot of Bajra (1 Practical)

17. Study of symptoms and causal organisms of wilt of Tur and Whip smut of sugarcane
(1 Practical)

18. Study of symptoms and causal organisms of white rust of Mustard / leaf spot of cabbage
(1 Practical)

19. Study of symptomology of the following diseases-citrus canker, Root knot of tomato, Angular leaf spot of cotton, papaya mosaic , Rust of soybean , sigatoka disease of Banana , Anthracnose of mango , phanerogamic disease due to cuscuta
(3 practicals)

20. Botanical excursions – Several local at least lone long excursion

Note: Minimum of 16 practicals need to be conducted as per the question paper format

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)

Skeleton Question Paper
B. Sc. THIRD YEAR BOTANY
DSEBP-II-Annual Pattern
PRACTICAL PAPER-XVII: BASED ON THEORY PAPERS-XIII & XV
PLANT PATHOLOGY –I & II (Optional –I)

Time: Four hours **Maximum Marks: 40**

Note: -
(i) Attempt all questions
(ii) Show your preparation to the examiner
(iii) Draw neat and well labeled diagrams wherever necessary

Q.1 Calibrate the microscope and measure the size of given spores (10)

Q.2 Identify and describe the symptoms and morphology of causal organism from the given specimen –B (12)

Q.3 Identify and describe the symptoms of diseased specimen – C&D (10)

Q.4 Identify and describe the given spots – E,F,G & H (E- Equipment, F- Diseased plant material , G- diseased plant material, H- Plant protectant (04)

Q5. Viva –Voce (04)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS) Pattern

B. Sc. THIRD YEAR

Annual Pattern

PRACTICAL PAPER-XVII: BASED ON THEORY PAPERS-XIII & XV

SYSTEMATIC BOTANY –I & II (Optional –II)

Practical : Maximum Marks – 50

Practical Exercises:

1. Description, identification and classification with sketches, floral formulae and floral diagrams of locally available plants of the following families -
   Papaveraceae,Mimoceae, Combretaceae, Myrtaceae, Cucurbitaceae, Rutaceae, Rubiaceae, Apocynaceae, Bignoniaceae, Acanthaceae, Convolvulaceae, Verbenaceae, Nyctaginaceae, Musaceae, Cannaceae, Commelinaceae, Cyperaceae (16 practical)
2. Preparation of dichotomous key by studying locally available plants of the same family (**1practical**)
3. Identification of at least six locally available plants up to species level with the help of flora (sketches, floral formulae and floral diagrams are not expected) (**2 practical**)
4. Study of pollen morphology by temporary preparation of pollen grains of Hibiscus, Ipomoea and Grasses by using acetolysis method (**2 practical**)
5. Botanical excursions

Note 1: Student must attend at least one long and two short botanical excursions.

Note 2: Minimum of 16 practicals need to be conducted as per the question paper format

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)

Skeleton Question Paper
B. Sc. THIRD YEAR BOTANY
DSEBP-II, Annual Pattern
PRACTICAL PAPER-XVII: BASED ON THEORY PAPERS-XIII & XV
SYSTEMATIC BOTANY–I & II (Optional –II)

Time: 04 hours **Maximum Marks: 40**

Note: - (i) Attempt all questions
(ii) Show your preparation to the examiner
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Describe, identify and classify the given specimen-**A & B** to its respective families With floral formulae and floral diagrams (16 Marks)

Q2. Identify the given specimen-**C** up to species level using key and flora (08 Marks)

Q3. Make a temporary preparation of pollen grain of the given specimen-**D** identify and Describe (08 Marks)

Q4. Identify and describe the spots-**E, F, G** and **H** as per the given instructions (2 spots on morphology; 2 spots on economic importance) (04 Marks)

Q5. Viva –Voce (04 marks)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS) Pattern
B. Sc. THIRD YEAR
Annual Pattern
PRACTICAL PAPER-XVII: BASED ON THEORY PAPERS-XIII & XV
HERBAL TECHNOLGY –I & II (Optional –III)

Practicals: **Maximum Marks – 50**

Practical Exercises:

1. Study of composition, preparation and uses of Ayurvedic medicine. (Triphala,Decotion ,Syrup) (3 practicals)
2. Macroscopic and microscopic evaluation of medicinal plants used as –Root drug, Stem drug, Leaf drug, (mentioned in theory) (5 practicals)
3. Study of leaf constant (stomatal number, stomatal index and palisade ratio) (2 practicals)
4. Preliminary phytochemical screening of alkaloids flavonoids, steroids, glycosides, carotenoids (mentioned in syllabus) (2 practicals)
5. Isolation and extraction of crude drug by using soxhlet / reflex assembly.(2 practicals)
6. Separation of alkaloids / flavonoids/ steroid / carotenoids / glycosids drug using paper / TLC / HPTLC.(2 practicals)
7. Quantitative estimation of secondary metabolites (mentioned in theory) (2 practicals)
8. Preparation of herbal formulation (antiseptic creams/hair oils / skin moisturizer / facial creams / shampoo) (2 practicals)
9. Excursion (3-Short and one long excursion are compulsory to visit pharmaceutical industry, field tour, research laboratories)

Note : Minimum of 16 practicals need to be conducted as per the question paper format

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)

Skeleton Question Paper
B. Sc. THIRD YEAR BOTANY
DSEBP-II, Annual Pattern
PRACTICAL PAPER-XVII: BASED ON THEORY PAPERS-XIII & XV
HERBAL TECHNOLOGY –I & II (Optional –III)

Time: 04 hours **Maximum Marks: 40**

Note: -
(i) Attempt all questions
(ii) Show your preparation to the examiner
(iii) Draw neat and well labeled diagrams wherever necessary

Q No 1. Macroscopic and microscopic evaluation of root/ stem / leaf drug. 10 M

OR

Preparation and study of herbal formulation: hair oil / skin moisturizers / antiseptic creams / triphalachurna / decoction/ syrup

Q. No. 2. Study of leaf constant (stomatal number, index, palisade ratio) 10 M

OR

Isolation and extraction of crude drug by suitable methods.

Q. No. 3.Preliminary phytochemical test or screening of any two drugs. 10 M

OR

Separation of alkaloids/ flavonoids/ steroids/ carotenoids/ glycosides using paper / TLC / HPTLC methods.

Q. No. 4. Spotting(6 spots) 06 M

01 Root drug.
02 Stem drug.
03 Leaf drug.
04 & 05 Herbal formulations.
06 Instrument(identification and working)

Q5. Viva –Voce 04 M

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

Under Graduate (UG) Programme

Faculty of Science and Technology

SUBJECT: BOTANY CLASS: B.Sc. THIRD YEAR

ANNUAL PATTERN

SECB (SKILL ENHANCEMENT COURSE BOTANY)

SECB-III (A)

Periods:45 **Credits : 02 (Marks-50)**

SECB –III (A) – FLORICULTURE

Unit-I) Fundamentals of Floriculture : Branches of floriculture, Present situation & scope.
Study of floricultural tools used in maintenance and in propagation.

Unit-II) Propagation by runners, suckers, off shoots & other vegetative means. Study of cut flowers, pot plants, seeds and bulbs, essential oil.

Unit-III) Soils and other media, manures and fertilizers, Irrigation. micro irrigation techniques like drip, sprinkler, fogger, fumigation, etc.

Unit-IV) Methods of propagation. Time of Propagation. Handling of seeds, bulbs, cut, flowers, nursery plants, pot plants. Control of diseases, insects and weeds.

Practicals:

1)Method of identifying major types of flowering plants (Trees, Shrubs, Climbers, Cacti, Succulents, House plants etc.), Pruning and shaping of the plants.
2) Cultural practices like planting time and distances and methods of planting, nutrition, irrigation & plant protection.
3) Making of floriculture.
4) Visit to flowering plants field.

Reference Books :
1.Floriculture in India-Gurucharan Singh Randhawa.
2. Advances in Floriculture-Suresh Malhotra.
3. Floriculture- APEDA
Note : Minimum of 5 practicals need to be conducted.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

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Faculty of Science and Technology

SUBJECT: BOTANY CLASS: B.Sc. THIRD YEAR

ANNUAL PATTERN

SECB (SKILL ENHANCEMENT COURSE BOTANY)

SECB-III (B)

Periods:45 **Credits : 02 (Marks-50)**

SECB –IIIB – BIOINSTRUMENTATION

Unit I Chromatography and Centrifugation: General principles of separation, paper chromatography, thin layer, affinity, gel permeation, ion exchange, GLC, HPTLC, preparative and analytical centrifugations and their application

Unit II Electrophoresis and Spectroscopy: Basic principles of electrophoresis, Factor affecting electrophoretic mobility, native and denaturing PAGE, isoelectric focusing, 2DE, Pulse field gel electrophoresis. Spectroscopy: Theory and applications of Ultra violet and visible spectroscopy, IR, Nuclear magnetic resonance, Mass and applications.

Practicals

1. Centrifugation
    a. Isolation of cell organelles like cell membrane, mitochondria, ribosomes etc.
    b. Determination of molecular weight of protein by centrifugation
2. Chromatography
    a. Separation of amino acids by paper chromatography
    b. Separation of sugars by TLC
    c. Separation of plant pigments by paper/ TLC
    d. Purification of proteins by Column / ion exchange / Molecular sieve chromatography
3. Electrophoresis
    a. Separation of soy bean proteins by PAGE

4. Spectroscopy
    a. Validation of Lambert-Beer's law (Photometer)
    b. Estimation of DNA by DPA method (UV spectrophotometer)
    c. Estimation of reducing sugars by DNSA method (VIS-Spectro.)

Note : Minimum of 5 practicals need to be conducted.

Reference Books :

1. Practical Biochemistry Paperback – 2016

by Damodaran Geetha K

2. An Introduction to Practical Biochemistry Paperback – 1 Jul 2017

by David Plummer

3. Practical Biochemistry Paperback – Import, 31 Jan 2013

by R. C. Gupta

4. Practical Biochemistry: A Student Companion Paperback – Import, 10 Jul 2015

by Tiwari Anand

5. Laboratory Manual For Practical Biochemistry Paperback – 2013

by Shivaraja Shankara Ym

6. A Text Book of Practical Biochemistry: 1 Paperback – Large Print, 1 Apr 2006

by Rashmi A. Joshi, Manju Saraswat

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

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SUBJECT: BOTANY CLASS: B.Sc. THIRD YEAR

ANNUAL PATTERN

SECB (SKILL ENHANCEMENT COURSE BOTANY)

SECB-IV (A)

Periods:45 **Credits : 02 (Marks-50)**

SECB –IVA – FRUIT AND VEGETABLE PROCESSING

Unit I

Production and processing scenario of fruits and vegetables in India and World, Scope of fruit and vegetable preservation industry in India. present status, constraints and prospects, Overview of principles and preservation methods of fruits and vegetables (Physical and Chemical), Commercial processing technology of fruits and vegetables, Primary processing and pack house handling of fruits and vegetables; Peeling, slicing, cubing, cutting and other size reduction operations for fruits and vegetables, Minimal processing of fruits and vegetables Blanching operations and equipment.

Unit II

Preparation and preservation of juices, squashes, syrups, sherbets, nectars, cordials, etc; Problems on squash and RTS; Processing and equipment for above products and FSSAI specification Preparation, preservation and machines for manufacture of crystallized fruits and preserves, jam, jelly and candies, Preparation, preservation and machines for manufacture of preserve, concentrate, fruit wine, pickles, sauce, paste, ketchup; toffee, cheese, lather, soup powders; FSSAI specification, Commercial processing technology of selected fruits and vegetables for production of various value added processed products.

Practicals :

1. Preparation of jam/ jelly from selected fruit
2. Preparation of RTS beverage e.g. Amala, Mango and Pineapple etc
3. Preparation of squash
4. Preparation of fruit candy
5. Preparation of fruit leather
6. Preparation of fruit toffee
7. Preparation of pickle
8. Preparation of banana and potato wafers
9. Visit to fruits and vegetables processing unit

Note : Minimum of 5 practicals need to be conducted.

Text Books:

	Name of Book	**Author**	**Publisher**
1.	Fruit and Vegetable Preservation Principles and Practices	Srivastava R.P. and Sanjeev Kumar	International Book Distributing Company, New Delhi 2005
2.	Post Harvest Technology of Fruits and Vegetables : Handling, Processing, Fermentation and Waste Management vol. I & II	Varma L. R. and Joshi V.K.	Indus Publishing, 2000
3.	Preservation of Fruits and Vegetables	Khader	ICAR, New Delhi 2010
4.	Preservation of Fruits and Vegetable	G. Lal, G.S. Siddappa, G.L. Tandan	ICAR Publication, New Delhi 1996

Reference Books:

5.	Name of Book	Author	Publisher
6.	Fruit and Vegetable Processing	M.G. Danthy	FAO, Rome
7.	Post harvest Handling and Processing of Fruit and Vegetable	I.S. Singh	Text book
8.	Fruit Processing	David Arthey,	Reference book
9.	Handbook of Fruit and	Sinha and Hui	John Wiley and

	Vegetable Processing		Sons, 2010
10.	Fruit and Vegetable Preservation -Principles and Practices	Srivastava RP & Kumar S	International Book Distributors, 2003
11.	Handbook of Fruit Science &Technology: Production, Composition and Processing.	Salunkhe DK & Kadam SS.	Marcel Dekker 1995

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

Under Graduate (UG) Programme

Faculty of Science and Technology

SUBJECT: BOTANY CLASS: B.Sc. THIRD YEAR

ANNUAL PATTERN

SECB (SKILL ENHANCEMENT COURSE BOTANY)

SECB-IV (B)

Periods:45 **Credits : 02 (Marks-50)**

SECB –IVB – HERBAL DRUG TECHNOLOGY

Unit- I

1.0 Introduction:

l.l Role of natural products in herbal medicine

1.2 General status and importance of herbal medicine

1.3 Safety of herbals / herbal pharmacovigilance

1.4 WHO policy on herbal medicine

2.0 Herbs as raw materials:

2.1 Definition of herb , herbal medicine, herbal medicinal product, herbal drug preparation

2.2 Source of Herbs

2.3 Selection, identification and authentication of herbal materials drying and processing of herbal raw material

Unit -II

3.0 Extraction of Herbal Materials

3.1 Choice of solvent for extraction

3.2 Methods used for extraction and principles involved in extraction

4.0 Standardization of herbal formulations & herbal extracts

4.1 Standardization of herbal extracts as per WHO and cGMP guidelines

4.2 Physical, chemical. Spectral and toxicological standardization, qualitative and quantitative estimations exemplified by the method of preparation of at least two standardized extracts

4.3 Stability studies for extract

4.4 Predictable chemical and galenical changes

Practicals:

1. Qualitative and Quantitative Microscopic Examination: Microscopic evaluation of powder drugs and their mixtures with adulterants
2. Exercises based on standardization and quality control of plant drugs
3. Qualitative and Quantitative Estimation of Phytoconstituents
4. Determination of phytoconstituents in crude drugs and commercial herbal formulations
5. Pharmacopoeial evaluation of natural products
6. Determination of ash values, extractive values, Swelling index and foaming index of crude drugs as per WHO Guidelines
7. Preparation of detailed monograph of at least one plant drug covering Pharmacognosy and Phytochemical investigation with its use in traditional system of medicine
8. Experiment on raw material standardization, purification of extracts with chromatographic techniques
9. Isolation of piperine from pepper
10. Isolation of Hespiridine from orange peel
11. Isolation & TLC of reserpine from Rauwolfia root
12. Isolation & TLC of Menthol from Mentha oil
13. Preparation and Evaluation of Herbal formulations

Note : Minimum of 5 practicals need to be conducted.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR

Under Graduate (UG) Programme

Faculty of Science and Technology

SUBJECT: BOTANY

CLASS: B.Sc. THIRD YEAR

ANNUAL PATTERN

SECB (SKILL ENHANCEMENT COURSE BOTANY)

SECB-III &IV

END OF SEMESTER EXAMINATION (ESE)

SEAT NO:

MARK SHEET

Sr. No.	**END OF SEMESTER EXAMINATION (ESE)**	**Maximum Marks**	**Obtained Marks**
1	Skill Work report submission	10	
2	Over all skill judgment	10	
3	Skill Work presentation	05	
Total		25	

Name & Signature of:

Examiner- 1:

Examiner- 2:

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)

Selected Readings for Semester-V & VI:

- A text book of systematic botany – R.N.Sutaria
- A textbook of plant physiology and Biochemistry – Verma S.K.
- Aerobiology – S.T.Tilak
- Anb introduction to taxonomy of angiosperms – N.C.Kumar
- Angiosperms – G.L.Chopra
- College botany – Das, Datta & Ganguly
- College Botany- Sunder Rajan S
- College botany Vol-III – B.P.Pandey
- Diseases of crop plants in India – G.Rangaswami
- Diseases of crop plants in India – G.Rangaswami & Mahadevan
- Economic Botany – Hill A.F.
- Economic botany – S.N.Pandey & A. Chanda
- Economic botany – Sharma & Avasthi
- Elements of plant physiology – Sarabhai B.P.
- Essentiales of plant pathology – V.N.Pathak
- Experiments in plant physiology – Bajraracharya D.
- Experments in microbiology, plant pathology, tissue culture & mushroom cultivation – K.R.Aneja
- Flora of Kolhapur – S.R.Yadav & Sardesai
- Flora of Maharashtra – Almeda
- Flora of Marathwada – Chief Ed. By Dr. V.N. Naik
- Flora of Osmanabad – V. N. Naik.
- Flora of Tirupati – Madhed Chetty
- Flowering plants – Origin and dispersal – A.L. Takhtajan
- Fungi and plant diseases – B.B.Mundkur
- Fungicides in plant diseases control – Y.L.Nene
- Illustrated genera of fungi imperfectii – Barnett
- Illustrated kingdom of fungi – D.S.Mukadam
- Introduction to Principles of Plant Pathology – R.S.Singh
- Plant Dieases – R.S.Singh
- Plant Pathaology – B.P.Pandey
- Plant Pathaology – G.N.Agrios
- Plant Pathaology – R.S.Mehrotra
- Plant physiology – Dubey B.P.
- Plant physiology – Shrivastava H.S.
- Plant physiology, a laboratory guide – Wadje S.S. & MMV Baig
- Plant protection – Chattopadhay
- Pollen morphology of angiosperms – N.P.K.Nair
- Seed pathology – D. Suryanarayana
- Seed pathology – D.K.Jha
- Seed pathology- Paul Neergaard
- Takhtajan A.L. (1997) Diversity and classification of flowering plant – Colubia University, press New York.
- Taxonomy of angiosperms – B.P.Pandey
- Taxonomy of angiosperms – P.C.Vasistha
- Taxonomy of angiosperms – Singh V. & D.K.Jain

- Taxonomy of angiosperms – V.N.Naik
- Taxonomy of angiosperms – Vasudevan Nair
- Taxonomy of Vascular plants – Lawrence G.H.M.
- Text book of Modern plant pathology – K.S.Bilgrami & H.C.Dube
- The evolution and classification of flowering plants – Cronquist A.
- Woodland, D.W. (1991) – Contemporary plant systematics : Pentice Hall, New Jersey
- Pharmacognosy – Kokate et al.
- Herbal drug technology – Agrawal S.S. and M.Purohit
- Encyclopedia of medicinal plants used in homoeopathy Vol-1&2 – K.S.Gopi
- Indian medicinal plants: Forgotten healers, a guide to ayurvedic herbal medicine – Prakash Paranjape
- Practical pharmacognosy – Khandelwar K.R.
- Biochemical analysis – S. Sadasivam and A. ManiCkam
- Pharm forestry: Field guide to medicinal plants – Dinesh kumar Tyagi
- Modern methods of plant analysis Vol-1&2 – Peach and M.V.trecey

- Davis P. H. and Heywood V.H. (1993) – Principles of Angiosperms Taxonomy, Tobert E. Kreigher Pub. Co. New York
- Grant. V. (1971) – Plant Speciation – Columbia University Press New York.

Harrison, H.J. (1971) – New concepts in flowering plant Taxonomy – Hieman Educational Books Ltd. London

Heslop – Harrison J. (1967) – Plant Taxonomy- English Language Book Soc. and Edward Arnold Pub. Ltd. UK.

Hey wood. V.H. and Moore D.M. (1984) – Current concepts in plant Taxonomy, - Academic press, London.

Jones A.D. and Wilbins, A.D. (1971) – Variation and adaptations in plant, species. Hieman & Co- Educational Books Ltd. London.

Jones S.B. Jr. and Luchsinger, A.E. (1986) – Plant systmatics (2nd edition), Mc Graw Hill Book Co., New York.

Nordenstam, B.EL Gazaly, G. and Kassas, M. Zooo – Plant systematic for 21st Century. Portland press Ltd. London.

- Biochemistry by Mathews C.F. (2003) - Addison Wesley, New Delhi
- Gill P.S. (2000) - Plant Physiology, S.Chand & Co. New Delhi
- JainV.K. ():Fundamental of Plant Physiology, S.Chand &Co., New Delhi
- Jayaraman J. (1992) - Laboratory Manual in Biochemistry, Wiley Eastern Ltd., New Delhi
- Plant Taxonomy and Bio Systematics (2nd, edition) – Edward Arnold Ltd. London

Radford, A.E. (1986) – Fundamentals of plant systematics – Harper & Row Publications, USA.

- Rastogi (2000) - Biochemistry Tata McGraw Hill, New York
- Salisbury P.B. & W. Ross (1992) - Plant Physiology , New York Pub. Co. California USA
- Shrivastava H.S. (1993) - Elements of Biochemistry Rastogi Publication, Meerut
- Shrivastava H.S.(2000) - Plant Physiology, Rastogi Publication, Meerut

Stebbins G.L. (1974) – Flowering plant Evolution Above species level – Edward Arnold Ltd., London.

- Subhash Chandra Dutta (1992) - Plant Physiology, Wiley Eastern, New Delhi
- Verma V. (1995) - Text book of Plant Physiology, Emkay Publication N.Delhi

A manual of laboratory experiments in cell biology	C Edward Gasque	Universal book Stall, New Delhi.
An Introduction to Microbiology	P. Tauro, K.K. Kapoor, K S Yadav	Wiley Eastrevn Limited, New Delhi.
Applied Microbiology	Vinita Kale, Kishore Bhusari	Himalaya publishing Hourse, Mumbai.
Biochemical methods 2nd ed.	S. Sadasivam, A. Manickam.	New Age International Publisher (P) Ltd, New Delhi.

Biotechniques Theory and Practice	S Y S Rana	Rastogi Publications, Meerat 250002
Experiments in Microbiology, Plant Pathology and Tissue Culture	K.R. Aneja,	Wishwa Prakashan, New Delhi.
Frontiers in Applied Microbiology	K.G. Mukerji, N C Pathak, Vedpal Sing	Print Hall, Lucknow
Industrial Microbiology	Richard W Thomas	Dowden, Hutchinson & Ross Inc. Stroudtiury Penasytuna.
Instrumental Methods of Chemical Analysis 5th Ed.	Galen W Ewing.	Mc Graw Hill International
Microbial Genetics	Stanley R Maloy, John E. Cronan David Freitelder	Narosa Publishing House, New Delhi.
Modern experimental biochemistry 3rd ed.	Rodney Boyer	Pearson education Inc.
Plant tissue culture	Kalyan Kumar DC	New Central Book Agency (P) Ltd. Calcutta 700009.
Practical Microscopy	Martin and Johnsen	Blackie and Sen Limited, London
Research Experiences in plant physiology.-A Laboratary Mannual	Thomas C. Moore	Spinger-Verlag,Berlin.

Biophysical Chemistry.	M. Sataske, Y. Hayashi, M.S. Sethi, S A Iqbal,	Discovery Publishing House (1997) New Delhi – 110002.
Instrumental Methods of Chemical Analysis 5th Ed.	Galen W Ewing.	Mc Graw Hill International
Practical Microbiology.	R. C. Dubey, D K Maheshwari	S Chand and company Ltd. New Delhi
A manual of laboratory experiments in cell biology	C Edward Gasque	Universal book Stall, New Delhi.
An Introduction to Microbiology	P. Tauro, K.K. Kapoor, K S Yadav	Wiley Eastrevn Limited, New Delhi.
Applied Microbiology	Vinita Kale, Kishore Bhusari	Himalaya publishing Hourse, Mumbai.
Biochemical methods 2nd ed.	S. Sadasivam, A. Manickam.	New Age International Publisher (P) Ltd, New Delhi.
Biotechniques Theory and Practice	S Y S Rana	Rastogi Publications, Meerat 250002
Experiments in Microbiology, Plant Pathology and Tissue Culture	K.R. Aneja,	Wishwa Prakashan, New Delhi.
Frontiers in Applied Microbiology	K.G. Mukerji, N C Pathak, Vedpal Sing	Print Hall, Lucknow
Industrial Microbiology	Richard W Thomas	Dowden, Hutchinson & Ross Inc. Stroudtiury Penasytuna.
Microbial Genetics	Stanley R Maloy, John E. Cronan David Freitelder	Narosa Publishing House, New Delhi.

Modern experimental biochemistry 3rd ed.	Rodney Boyer	Pearson education Inc.
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Practical Microscopy	Martin and Johnsen	Blackie and Sen Limited, London
Research Experiences in plant physiology.-A Laboratary Mannual	Thomas C. Moore	Spinger-Verlag,Berlin.

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR
ACADEMIC (1-BOARD OF STUDIES) SECTION
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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ०८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.११/४४–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

1. Agricultural Microbiology
2. Agrochemicals & Fertilizers
3. Analytical Chemistry
4. B.C.A.
5. B.Voc. (Food Processing, Preservation and Storage)
6. B.Voc. (Web Printing Technology)
7. Biochemistry
8. Bioinformatics
9. Biophysics
10. Biotechnology (Vocational)
11. Biotechonology
12. Botany
13. Chemistry
14. Computer Application (Optional)
15. Computer Science (Optional)
16. Computer Science
17. Dairy Science
18. Dyes and Drugs
19. Electronics
20. Environmental Science
21. Fishery Science
22. Food Science
23. Geology
24. Horticulture
25. Industrial Chemistry
26. Information Technology (Optional)
27. Mathematics
28. Microbiology
29. Network Technology
30. Physics
31. Software Engineering
32. Statistics
33. Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/२९२
दिनांक : ०३.०७.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERISTY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS)
for
Faculty of Science and Technology
Under Graduate Program

SUBJECT: BOTANY

B. Sc. First Year

With Effect from June 2019..

Introduction:

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in the curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

Swami Ramanand Teerth Marathwada University has several initiatives towards academic excellence, quality improvement and administrative reforms. In view of this priority and in-keeping with Vision and Mission, process was already initiated towards introduction of semester system, grading system and credit system. University had implemented Choice Based Credit System (**CBCS**) pattern at UG level from the academic year 2016-2017 progressively.

Revision and updating of the curriculum is the continuous process to provide an updated education to the students at large. In view of this priority and in-keeping with Vision and Mission, process of revision and updating the curriculum is initiated and implemented at UG level from the academic year 2019-2020 progressively. Presently there is wide diversity in the curriculum of different Indian Universities which inhibited mobility of students in other universities or states. To ensure uniform curriculum at UG level , curriculum of different Indian Universities, syllabus of NET, SET, MPSC, UPSC, Forest Services and the UGC model curriculum are referred to serve as a base in updating the same.

The CBCS provides choice for students to select from the prescribed courses .The choice based credit system provides a 'cafeteria' type approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning. Our university has already introduced the choice based credit system. The semester system accelerates the teaching-learning process and enables vertical and horizontal mobility in learning.

Keeping in mind BoS in Botany prepared the curriculum to ensure up-to-date level of understanding of plant sciences. Studying plant sciences prepares the students for a career working either in an educational institution or an industry in which they can be directly involved in the research and development and Knowledge of modern and applied plant science and excellent career prospects.

The study of Botany aims to expand and increase current knowledge about plants in order to

solve problems in many fields including agriculture, ecology, medicine, biotechnology and horticulture are some of the objectives kept in mind during executing the syllabus.

How plants function at the cellular, tissue, organ, and organismal levels? How evolution of plants and how they contribute to biodiversity. How interactions with each other impacts their physical environment are the core objectives.

The addition of Skill enhancement courses aims to develop skills in plant sciences and practical experience in the students.

At the end of the curriculum, the student should have increased: an aptitude towards science and nature and also undertakes the fundamental and applied research in plant science in the benefit of the human and nature.

At last comments, suggestions are welcome from all the teachers, stakeholders and students for the upbringing the curriculum.

Salient Features :

The syllabus of B Sc Botany has been framed to meet the requirement of Choice Based Credit System. The courses offered here in will train and orient the students in the specific fields of Botany.

The Section A of DSEB deals with Cell Biology, Genetics & Molecular Biology, Plant Breeding & Biotechnology. The Section B of DSEB with choice provides an option to learn courses like Plant Pathology, Analytical Techniques in Plant Sciences, Herbal Drug Technology, ,Plant Systematics, Research Methodology and Bioinformatics .

This would help students to lay a strong foundation in the field of Botany.

Overall after completion of this course, students will also acquire fundamental knowledge in Plant Science and also understand that Botany is an integral part of the human life and developments.

Skill Enhancement Courses offered during third year of this program are being designed with the aim of imparting specific skills to the students which will lead to the self employability through development of their own enterprises.

Utility of Program

This program will train and orient the students in the field of diversity of different life forms of plants and microbes, Plant Ecology, Taxonomy of Angiosperms, Plant Anatomy, Plant Embryology , Plant Physiology, Plant Metabolism and Biochemistry, Cell Biology, Genetics & Molecular Biology, Plant Pathology, Analytical Techniques in Plant Sciences, Herbal Drug Technology, Plant Breeding & Biotechnology ,Plant Systematics, Research Methodology and Bioinformatics in relation to Environment and Agriculture as well as Biotechnological, Pharmaceutical and Herbal Industries. This will help the students for their career development.

Skill Enhancement Courses being offered during this program will provide job opportunities and additional specific skills to the students for self employability through the development of their own enterprises.

Learning Objectives :

The Objective of this program are :

1. To provide an updated education to the students at large in order to know the importance and scope of the discipline and to provide mobility to students from one university or state to other.

2. To update curriculum by introducing recent advances in the subject and enable the students to face NET, SET, UPSC and other competitive examinations successfully.

3. To impart knowledge of plant science as the basic objective of Education.

4. To develop a scientific attitude to make students open minded, critical and curious.

5. To develop an ability to work on their own and to make them fit for the society.

6. To expose themselves to the diversity amongst life forms.

7. To develop skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of plant materials and data.

8. To make aware of natural resources and environment and the importance of conserving the same.

9. To develop ability for the application of the acquired knowledge in the fields of life so as to make our country self reliant and self sufficient.

10. To appreciate and apply ethical principles to plant science research and studies.

Prerequisite :

The optional courses are offered to the students registered for undergraduate programs. Such students should have the basic knowledge of Plant Science and willing to gain additional knowledge in the field of Botany. Admissions to B Sc course are given as per the University rules.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERISTY, NANDED

SEMESTER PATTERN CURRICULUM UNDER

CHOICE BASED CREDIT SYSTEM (CBCS) FOR
Under Graduate Course
Faculty of Science and Technology

SUBJECT: BOTANY

CLASS: B. Sc. FIRST YEAR
An Outline:

Semester/ Annual	Course Name		Paper No. & Title	Total Periods (periods/ week)	Marks for		Credits (Marks)
					External (ESE)	Internal (CA)	
Semester-I	CCB-I	Section-A	**Theory Paper-I:** Viruses, Bacteria Algae , Fungi , Lichens and Mycorrhiza	45 (03/week)	40	10	Credits: 02 (Marks:50)
		Section-B	**Theory Paper-II:** Plant Ecology , Phytogeography and Environmental Biology	45 (03/week)	40	10	Credits: 02 (Marks:50)
Semester-II	CCB-II	Section-A	**Theory Paper-III:** Bryophytes, Pteridophytes Gymnosperms and paleobotany	45 (03/week)	40	10	Credits: 02 (Marks:50)
		Section-B	**Theory Paper-IV:** Taxonomy of Angiosperms	45 (03/week)	40	10	Credits: 02 (Marks:50)
Annual pattern	CCBP-I		**Practical Paper-V:** Practicals based on theory papers of CCB-I&II	24 Prac. (03/week/ batch)	80	20	Credits: 04 (Marks:100)
				Total	240	60	Credits: 12 (Marks:300)

CCB: Core Course Botany, **CCBP**: Core Course Botany Practical, **ESE**: End Semester Examination, **CA**: Continues Assessment,

Distribution of Credits: 80 % of the total credits for the ESE and 20% for CA

CA of 10 Marks (Theory) : 05 Marks for test & 05 Marks for Assignment

CA of 20 Marks (Practicals): : 10 Marks for test &10 Marks for Record Book ,Submission of collection and field note and Excursion Report.

CLASS : B.Sc. SECOND YEAR
An Outline:

Semester/ Annual	Course No.	Course Name	Instruction Hrs/week	Total Periods	Marks for		Credits (Marks)
					Internal (CA)	External (ESE)	
Semester-III	**CCB-III (Section-A)**	**Theory Paper-VI:** Plant Anatomy	03	45	10	40	Credits: 02 (Marks:50)
	CCB-III (Section-B)	**Theory Paper-VII:** Plant Physiology	03	45	10	40	Credits: 02 (Marks:50)
Semester-IV	**CCB-IV(Section-A)**	**Theory Paper-VIII: Plant Embryology**	03	45	10	40	Credits: 02 (Marks:50)
	CCB-IV (Section-B)	**Theory Paper-IX:** Plant Metabolism and Biochemistry	03	45	10	40	Credits: 02 (Marks:50)
Annual Pattern	**CCBP-II**	**Practical Paper-X:** Practicals based on CCB-III (Section-A) CCB-IV (Section-A)	03	16 Practicals	10	40	Credits: 02 (Marks:50)
	SECB-I	SEC- I A OR B		45	25	25	Credits: 02 (Marks:50)
Annual Pattern	**CCBP-III**	**Practical Paper-XI:** Practicals based on CCB-III (Section-B) CCB-IV (Section-B)	03	16 Practicals	10	40	Credits: 02 (Marks:50)
	SECB-II	SEC- II A OR B	03	45	25	25	Credits: 02 (Marks:50)
Total Credits Semester-III and IV					Marks: 60+50= 110	Marks: 240+50=290	Credits: 12+04=16 (Marks: 300+100 =400)

ESE : End Semester Examination, **CA** : Continues Assessment, **SECB**: Skill Enhancement Course Botany, **CCB**: Core Course Botany, **CCBP**: Core Course Botany Practical.

Distribution of Credits: 80 % of the total credits for the ESE and 20% for CA

CA of 10 Marks (Theory) : 05 Marks for test & 05 Marks for Assignment

CA of 10 Marks (Practicals): : 05 Marks for test & 05 Marks for Record Book ,Submission of collection and field note and Excursion Report.

CA of 25 Marks : 15 Marks for Seminar & 10 Marks for Test

Class : B.Sc. THIRD YEAR
An Outline:

Semester/ Annual	Course No		Name of the Course	Total Periods (Periods/ Week)	Marks for		Credits (Marks)
					External (ESE)	Internal (CA)	
Semester-V	**DSEB-I**	**Section - A**	**Theory Paper- XII:** Cell Biology, Genetics & Molecular Biology	45 (03/week)	40	10	Credits:02 (Marks: 50)
		Section - B	**Theory Paper- XIII:** **B I:** Plant Pathology OR **B II:** Analytical Techniques in Plant Sciences OR **B III:** Herbal Drug Technology	45 (03/week)	40	10	Credits:02 (Marks: 50)
Semester-VI	**DSEB-II**	**Section - A**	**Theory Paper- XIV:** Plant Breeding & Biotechnology	45 (03/week)	40	10	Credits:02 (Marks: 50)
		Section - B	**Theory Paper- XV:** **B I:** Plant Systematics OR **B II:** Research Methodology OR **B III:** Bioinformatics	45 (03/week)	40	10	Credits:02 (Marks: 50)
Annual Pattern	**DSEBP-I (DSEB I & II Section A)**	**--**	**Practical Paper XVI:** Practicals based on theory papers- XII & XIV	16 Pract. (03/week/ Batch)	40	10	Credits:02 (Marks: 50)
	SECB III	**--**	SEC- III A Or B	01 Skill (03/week/ Batch)	25	25	Credits:02* (Marks: 50)
Annual Pattern	**DSEBP-II (DSEB I & II**	**--**	**Practical Paper XVII:** Practicals based on theory	16 Pract. (03/week/ Batch)	40	10	Credits:02 (Marks: 50)

	Section B)		papers- XIII & XV				
	SECB IV	**--**	SEC- IV A OR B	01 Skill (03/week/ Batch)	25	25	Credits:02* (Marks: 50)
Total Credits Semester –V & VI					240+50 = 290	60+50 =110	Credits:12+4* = 16 (Marks: 300+100* = 400)

ESE : End Semester Examination, **CA** : Continues Assessment, **SECB**: Skill Enhancement Course Botany, **DSEB**: Discipline Specific Elective Botany, **DSEBP**: Discipline Specific Elective Botany Practical

Distribution of Credits: 80 % of the total credits for the ESE and 20% for CA

CA of 10 Marks (Theory) : 05 Marks for test & 05 Marks for Assignment

CA of 10 Marks (Practicals): : 05 Marks for test & 05 Marks for Record Book ,Submission of collection and field note and Excursion Report.

CA of 25 Marks : 15 Marks for Seminar & 10 Marks for Test

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. F.Y.
Semester – I
CCB-I (A)
Theory Paper –I

Viruses ,Bacteria, Algae, Fungi, Lichens and Mycorrhiza

Credits :02

Periods – 45 **Maximum Marks – 50**

Learning Objectives

1. To study and impart knowledge about the occurrence, distribution, structure and life history of lower plants such as algae, fungi, lichens
2. To instill in students an appreciation for the diversity of plant forms and structural organization that exists within plant bodies that allow plants to develop and live as integrated organisms in diverse environments

Learning outcomes:

1. Understand the morphology, structure and importance of the various organisms
2. Differentiate between various groups of Algae, Fungi, Bacteria, Viruses, and Lichens & Mycorrhiza
3. Learn the life cycles of individuals belonging to Algae, Fungi, Bacteria, Viruses, Lichens & Mycorrhiza

Unit I: Microbes (10 Lectures)

Viruses –Introduction, general characters of viruses, replication (general account), and RNA virus (TMV); Economic importance; study of yellow vein mosaic of Bhendi

Bacteria – Introduction, General characters and cell structure; Reproduction – vegetative, asexual (Binary Fission) and recombination (conjugation,) Study of Citrus Canker and Economic importance of Bacteria.

Unit II: Algae (12 Lectures)

Introduction, General characters, Ecology and distribution; Range of thallus organization and reproduction; Classification of algae (F. E. Fritch's 1935); Morphology and life-cycles of the following: *Nostoc, Oedogonium* and *Ectocarpus.* Economic importance of algae

Unit III: Fungi (13 Lectures)

Introduction- General Characteristics, ecology and significance, cell wall composition, nutrition, reproduction and classification (Alexopolous & Mims 1979); General characteristics, ecology, significance and life cycle of, *Penicillium, Alternaria* (Deuteromycota), *Agaricus* (Basidiomycota).

Unit IV: Lichens and Mycorrhiza (10 Lectures)

Lichens: General characters, types and economic importance.

Mycorrhiza: General characters, ectomycorrhiza and endomycorrhiza and their significance

Theory paper-I: Viruses ,Bacteria, Algae, Fungi, Lichens and Mycorrhiza

Unit wise distribution of periods and marks:

Unit	Title	Periods Allotted	Maximum Marks
I	Microbes	10	28
II	Algae	12	28
III	Fungi	13	28
IV	Lichens and Mycorrhiza	10	28
	Total	**45**	**112**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. F.Y.
Semester – I
CCB-I (B)
Theory Paper –II
Plant Ecology ,Phytogeography and Environmental Biology

Credits :02

Periods – 45 **Maximum Marks – 50**

Learning Objectives:

1. Acquainted with basic concepts of Ecology , Ecosystem Ecological factors, community ecology and phytogeography
2. To provide students with skills necessary for Ecological studies

Learning outcomes:

1. Able to understand the ecological principles , interactions taking place in the Ecosystems and the flow of energy
2. Learn about the concept of phytogeography and its relations with other disciplines

Unit I: Ecological Factors (10 Lectures)

Introduction, Scope of Ecology, Ecological Factors: Climatic factors- Light, Temperature, Wind, Humidity. Edaphic factors- Soil moisture, Temperature, Soil pH, Soil formation, Composition and Soil profile.

Unit II: Ecological Adaptations (11 Lectures)

Morphological and anatomical adaptations in Hydrophytes (*Hydrilla* stem and *Nymphea* petiole), Xerophytes (*Nerium* leaf and *Casuarina* stem). General characters of Halophytes and Epiphytes.

Unit III: Ecosystem and Plant Communities (12 Lectures)

Ecosystem: Introduction, Structure, types (Pond ecosystem and Forest ecosystem), Tropic levels, Energy flow in ecosystem, food chain, food web and ecological pyramids.

Community ecology: Community characteristics, Frequency, Density, Life forms and ecological succession (Hydrosere), Analysis of Plant communities (quadrant method).

Unit IV: Phytogeography and Environmental Biology (12 Lectures)

Introduction, Bio-geographical regions of India, Bio-diversity hot spots of India

Environmental pollution: Air, Water and soil pollution (Causes, effects and control measures), Soil erosion and soil conservation, afforestation , deforestation and Chipko movement, Environmental education and awareness.

Theory paper-II: – Plant Ecology, Phytogeography and Environmental Biology

Unit wise distribution of periods and marks:

Unit	Title	Periods Allotted	Maximum Marks
I	Ecological Factors	10	28
II	Ecological Adaptations	11	28
III	Ecosystem and Plant Communities	12	28
IV	Phytogeography and Environmental Biology	12	28
	Total	**45**	**112**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. F.Y.
Semester – II
CCB-II (A)
Theory Paper –III
Bryophytes, Pteridophytes ,Gymnosperms & Paleobotany

Credits :02

Periods – 45 **Maximum Marks – 50**

Learning Objectives:

1. To study the occurrence, distribution, structure and life history of bryophytes, pteridophytes and gymnosperms
2. To provide students with skills in paleobotany studies

Learning outcomes:

1. Learn the life cycles of individuals belonging to Bryophytes, Pteridophytes and Gymnosperms
2. Learn about process of fossil formation and fossils plants

Unit I: Bryophytes (10 Lectures)

General characters, Classification (N.S.Parihar), morphology, anatomy and reproduction of *Marchantia* and *Funaria*. (Developmental study not expected), Economic importance of bryophytes.

Unit II: Pteridophytes (13 Lectures)

General characters, classification (N.S.Parihar), morphology, anatomy and reproduction of *Lycopodium* and *Marsilea*. (Developmental study not expected), Homospory, Heterospory and seed habit, stelar evolution, economical importance of Pteridophytes.

Unit III: Gymnosperms (12 Lectures)

General characters, classification (K.R.Sporne, 1964), morphology, anatomy and Reproduction of *Cycas* and *Pinus*. (Developmental study not expected), Ecological and Economic importance.

Unit-IV: Paleobotany (10 Lectures)

Introduction to palaeobotany, process of plant fossilization, types of fossils, geological time scale, Study of fossil Gymnosperms-***Lyginopteris oldhamia*** (stem), ***Bennettites*** (flower) and General characters of ***Ginkgo*** (A living fossil).

Theory paper-III: –Bryophytes, Pteridophytes Gymnosperms & Paleobotany

Unit wise distribution of periods and marks:

Unit	**Title**	**Periods Allotted**	**Maximum Marks**
I	Bryophytes	10	28
II	Pteridophytes	13	28
III	Gymnosperms	12	28
IV	Paleobotany	10	28
	Total	**45**	**112**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Semester pattern curriculum under
Choice Based Credit System (CBCS) for

BOTANY

B.Sc. F.Y.
Semester – II
CCB-II (B)
Theory Paper –IV
Taxonomy of Angiosperms

Credits :02
Periods – 45 **Maximum Marks – 50**

Learning Objectives:

1. To study the types of classifications- artificial, Natural and phylogenetic
2. To study the principles and rules of ICN and taxonomical terminology
3. To study the various plant families and their economic importance

Learning Outcomes:

1. Proficiency with the basic terminology of plant morphology
2. Able to identify the major families of plants and their economic importance
3. Understand the methods of collecting and preserving plants

Unit I: Introduction (10 Lectures)

Aims of Taxonomy, Principles of Taxonomy, Identification, Nomenclature and Classification, Principles and rules of ICN (Rank of taxa, typification, author citation) Importance of Herbarium, important herbaria and botanical gardens of the India.

Unit II: Plant Classification (11 Lectures)

Taxonomic hierarchy,Types of classification-artificial, natural and phylogenetic. Bentham and Hooker, Engler and Prantl (up to family level with reference to families mentioned in the syllabus).

Unit III: Morphology of Angiosperms (12 Lectures)

Root: Definition, characters, types (tap root and adventitious) and functions. Stem: Definition, characters and functions. Leaf: Definition, structure of typical leaf (Hibiscus), functions, types- Simple (Hibiscus), Compound (unipinnate, bipinnate, tripinnate, unifoliate, bifoliate, trifoliate, multifoliate), venation- definition, types (reticulate, parallel), Phyllotaxy. Inflorescence: Definition, types- Racemose (characters), Cymose (characters). Flower: Definition, symmetry, actinomorphic,

zygomorphic, types (hypogynous, epigynous, perigynous), structure of typical flower (Hibiscus), calyx (polysepalous, gamosepalous), corolla (polypetalous, gamopetalous), Androecium (parts of a stamen), Gynoecium –structure of carpel, apocarpous, syncarpous, placentation (axile, parietal, free central, marginal, basal) Fruit: Definition, forms- simple (dry, legume, fleshy, berry), aggregate (Etario of berries), composite (Sorosis).

Unit IV: Study of Plant Families (12 Lectures)

Study of vegetative and floral characters of following families: Brassicaceae, Fabaceae, Solanaceae, Lamiaceae and Poaceae .

Theory paper-III: – Taxonomy of Angiosperms

Unit wise distribution of periods and marks:

Unit	Title	Periods Allotted	Maximum Marks
I	Introduction	10	28
II	Plant Classification	11	28
III	Morphology of Angiosperms	12	28
IV	Study of Plant Families	12	28
	Total	**45**	**112**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

B.Sc. General (Semester Pattern)

Choice Based Credit System (CBCS) Pattern
B. Sc. F.Y.
Annual Pattern
CCBP- I
PRACTICAL PAPER-V: BASED ON THEORY PAPERS-I, II, III & IV

Practicals–24 **Credits: 04 Maximum Marks – 100**

Practical Exercises:

1. Study of morphology of Bacteria by Gram staining method
2. Study of citrus canker disease
3. Study of symptoms of yellow vein mosaic of Bhendi
4. Study of Algae : Systematic position and external features of *Nostoc, Oedogonium, , Ectocarpus*
5. Study of Fungi: systematic position, external and internal features of *Penicillium, Alternaria, Agaricus*
6. Study of different forms of Lichens
7. Study of ectomycorrhiza and endomycorrhiza
8. Study of *Marchantia*- morphology of thallus, w.m. rhizoids and scales, v.s. thallus through gemma cup, w.m. gemmae (all temporary slides), v.s. antheridiophore, archegoniophore, L.S..of sporophyte (all permanent slides)
9. Study of *Funaria*- morphology, w.m. leaf, rhizoids, operculum, peristome, annulus, spores (temporary slides); permanent slides showing antheridial and archegonial heads, L.S.of capsule and protonema
10. *Lycopodium*- morphological and anatomical study
11. *Marsilea*- morphological and anatomical study of petiole and rhizome
12. *Cycas*- morphology ,T.S of. rachis, T.S.of leaflet, male and female cone
13. *Pinus*- morphology (long and dwarf shoots, w.m. dwarf shoot, male and female cone).
14. Study of fossil Plants
15. Estimation of soil Bulk density and porosity

16. Study of morphological and anatomical adaptations of hydrophytes (*Hydrilla* stem and *Nymphea* petiole) and xerophytes (*Nerium* leaf and *Casuarina* stem)
17. Determination of dissolved oxygen (DO) in water samples
18. Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus
19. Quantitative analysis of herbaceous vegetation in the college campus
20. Study of vegetative and floral characters of the following families (Description, V.S. flower, section of ovary, floral diagram/s, floral formula/e and systematic position according to Bentham & Hooker's system of classification):
    Brassicaceae , Fabaceae , Solanaceae , Lamiaceae , Poaceae.
21. Excursion/ study tour for plant specimen collection

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (Semester Pattern)
Choice Based Credit System (CBCS)

Skeleton Question Paper
B. Sc. First Year (w.e.f. 2019-2020)

Theory Paper

Maximum Marks: 40

Note: - (i) Attempt all questions
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Essay Type Question 15 marks
OR
a) Short Question 08 marks
b) Short Question 07 marks
(Based On Unit I, II)

Q2. Essay Type Question 15 marks
OR
a) Short Question 08 marks
b) Short Question 07 marks
(Based On Unit III & IV)

Q3. Write short notes on any two of the following (Each of 05 Marks) 10 marks
a)
b)
c)
d)
(Based on all Units)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

BOTANY – CURRICULUM

B.Sc. General (CBCS Pattern)
Skeleton Question Paper
B. Sc. First Year
Annual Pattern
PRACTICAL PAPER-V: BASED ON THEORY PAPER-I ,II, III & IV
(Compulsory)

Time: Four hours **Maximum Marks: 80**

Note: - (i) Attempt all questions
(ii) Show your preparations to the examiner
(iii) Draw neat and well labeled diagrams wherever necessary

Q1. Identify, classify and describe the given specimen –**A** (Two Algae from Mixture / Fungi) on the basis of external and internal characters.

(The specimen **A** may be given alternately to the students) 15 Marks

Q2. Identify, classify and describe the given specimen –**B** (Bryophyta / Pteridophyta/ Gymnosperms) on the basis of external and internal characters.

(The specimen **B** may be given alternately to the students) 15 Marks

Q3. Make a temporary preparation of the given specimen **C**. Identify and describe its internal structure of ecological interest. (Hydrilla stem/ *Nymphaea* petiole/ *Casuarina* stem / *Nerium* leaf. (Specimen **C** may be given alternately to the students) 15 Marks

Q4. Describe, Identify and classify the given plant specimen **D** with floral formula and floral diagram (flowering twig of easily available plant for specimen **D** may be given alternately to the students)

15 Marks

Q.5 Spotting (Identify and describe the spots-**A, B, C, D** and **E** as per the given instructions)

(A- Algae / Fungi, B- Bryophyta/Pteridophyta/Gymnosperms/Fossil Specimen, C- Ecology , D& E – Taxonomy/ morphology of families of flowering plants .)

10Marks

Q.6. Visit/ Excursion reports 05 Marks

Q.7. Viva- Voce 05 Marks

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।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक ३१ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. २६/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

1. B.Sc.-III Year-Biophysics
2. B.Sc.-III Year-Bioinformatics
3. B.Sc.-III Year-Biotechnology
4. B.Sc.-III Year-Biotechnology (Vocational)
5. B.Sc.-III Year-Botany
6. B.Sc.-III Year-Horticulture
7. B.Sc.-III Year-Agro Chemical Fertilizers
8. B.Sc.-III Year-Analytical Chemistry
9. B.Sc.-III Year-Biochemistry
10. B.Sc.-III Year-Chemistry
11. B.Sc.-III Year-Dyes & Drugs Chemistry
12. B.Sc.-III Year-Industrial Chemistry
13. B.C.A. (Bachelor of Computer Application)-III Year
14. B.I.T. (Bachelor of Information Technology)-III Year
15. B.Sc.-III Year-Computer Science
16. B.Sc.-III Year-Network Technology
17. B.Sc.-III Year-Computer Application (Optional)
18. B.Sc.-III Year-Computer Science (Optional)
19. B.Sc.-III Year-Information Technology (Optional)
20. B.Sc.-III Year-Software Engineering
21. B.Sc.-III Year-Dairy Science
22. B.Sc.-III Year-Electronics
23. B.Sc.-III Year-Environmental Science
24. B.Sc.-III Year-Fishery Science
25. B.Sc.-III Year-Geology
26. B. A./B.Sc.-III Year-Mathematics
27. B.Sc.-III Year-Microbiology
28. B.Sc.-III year Agricultural Microbiology
29. B.Sc.-III Year-Physics
30. B. A./B.Sc.-III Year Statistics
31. B.Sc.-III Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/७५
दिनांक : १२.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग विज्ञान व तंत्रज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University, Nanded

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

B. O. S. IN CHEMISTRY
B. SC. THIRD YEAR (CHEMISTRY)
SEMESTER- V & VI
CBCS Course
Effective from JUNE – 2021

Swami Ramanand Teerth Marathwada University, Nanded
Choice Based Credit System (CBCS) Course Structure
Faculty of Science
B. Sc. Third Year Syllabus
Semester Pattern effective from June 2021
Subject: Chemistry

Semester	Course No	Name of the course	Instruction Hrs/Week	Total Period	CA (Int.)	ESC (Ext.)	Total Marks	Credits
V	DSEC V (Section A)	Theory Paper-XII Organic+Inorganic Chemistry (P-XII)	03	45	10	40	50	02
	DSEC V [(Section B) Elective]	Theory Paper-XIII Physical+Inorganic Chemistry (P-XIII)- B_1 **OR** (Elective Paper) Physical+Inorganic Chemistry (P-XIII) B_2	03	45	10	40	50	02
	DSECP- IV [DSEC V &VI (Section A)]	Practicals based on P-XII & P-XIV (P-XVI)	04 04	Practicals 08 08	05 05	20 20	25 25	01 01
	DSECP III SEC III (Anyone Skill from optional)	(A) Spectroscopic Techniques and Cosmetic Preparation **OR** (A) Basic Analytical Chemistry	02+01=03	45	25	25	50	(02)*
VI	DSEC VI [(Section A) Elective]	Theory Paper-XIV Organic+Inorganic Chemistry (P-XIV) A_1 **OR** (Elective Paper) Organic+Inorganic Chemistry (P-XIV) A_2	03	45	10	40	50	02
	DSEC VI (Section B)	Theory Paper-XV Physical+Inorganic Chemistry (P-XV)	03	45	10	40	50	02
	DSECP- IV [DECC V &VI (Section B)]	Practicals based on P-XIII & P-XV (P-XVII)	04 04	Practicals 08 08	05 05	20 20	25 25	01 01
	DSEC IV SEC IV (Anyone Skill from optional)	(B) Fuel Chemistry OR (B) Computer Application in Chemistry	02+01=03	45	25	25	50	(02)*
	Total credits semester V and VI						**12**	**(04)***

CCC: Core Course Chemistry, **CCCP:** Core Course Chemistry Practical, **ESE:** End of Semester Examination,
CA: Continuous Assessment, **SECC:** Skill Enhancement Course Chemistry.
Distribution of Credits: 80% of the total Marks for ESE and 20% for CA.

- **CA** of Marks 10 : 10 Marks for test.
- **CA** of 25 Marks : 15 Marks for Seminar & 10 Marks for test.

B. Sc. Third Year: Semester-V
Paper-XII, (DSEC-V, Section A)
Organic + Inorganic Chemistry

Marks – 50 **Periods – 45**

Section – A (Organic Chemistry)

Unit: I Heterocyclic Compounds **06 Periods**

Introduction, definition, nomenclature and classification.
Simple five membered heterocycles with one hetero atom: Furan, Thiophene and Pyrrole.
Aromatic character and molecular orbital picture of Furan, Thiophene and Pyrrole.
General mechanism of electrophilic substitution reaction with reactivity. Preparation and chemical properties of five membered heterocycles.

1) **Furan**: Synthesis from: a) Mucic acid b) Succinaldehyde. Physical Properties, Chemical Properties: Nitration, Gatterman-Koch reaction, Gomberg reaction, Diels-Alder reaction and Reduction reaction.
2) **Pyrrole**: Synthesis from: a) Furan b) Succinamide. Physical properties, Chemical Properties: Sulphonation, Gatterman Reaction, Reimer-Tiemann reaction, Ring Expansion, Coupling reaction and Reduction reaction.
3) **Thiophene**: Synthesis from: a) n-Butane b) Sodium Succinate, Physical properties. Chemical Properties: Halogenation, Chloromethylation, Mercuration, Reaction with n-Butyl Lithium and Reduction reaction.

Unit: II Six Membered Heterocycles: Pyridine **04 Periods**

Introduction, Nomenclature, Aromatic character, Basic character and comparison with Pyrrole ,
General Mechanism for electrophilic substitution reaction and nucleophilic substitution reaction
Synthesis from: a) Acetylene b) Pentamethylene diamine hydrochloride c) β-Picoline
Chemical Properties: Nitration, Sulphonation, Halogenation, reaction with KOH, Amination reaction.

Unit: III Synthetic Drugs and Dyes **10 Periods**

(1) **Synthetic Drugs**: Introduction, Definition of drugs, qualities of good drug, Classification of drugs based on therapeutic action.
a) Pharmacodynamic agents : Antipyretics, Analgesics, Anesthetics, Antidiabetics, Anti-inflammatory, sedatives, hypnotics and tranquillizers.
b) Chemotherapeutic agents: Antimalarials, Antibacterials, Antifungals, Antituberculars. Synthesis and uses of the following drugs: a) Paracetamol b) Sulphanilamide c) Aspirin d)Benzocaine e) Isoniazide f) Sulphadiazine.

(2) **Synthetic Dyes**: Introduction, Definition of dyes qualities of good dye, Classification of dyes based on methods of applications, colour and chemical constitution: a) Witt's theory b) Armstrong's theory.

Synthesis and applications of Azo dyes: methyl orange and congo red (mechanism of diazo coupling); Triphenylmethane dyes: malachite green and crystal violet; Phthalein dyes: Phenolphthalein and Fluorescein dye.

Unit: IV Alkaloids, Vitamins and Pesticides **10 Periods**

(1) **Alkaloids**: Introduction, occurrence and extraction, classification and general properties, determination of chemical constitution of alkaloids. Constitution and Synthesis of the following alkaloids.

a) Ephedrine: Synthesis from : 1-Phenyl propane-1, 2-dione

b) Nicotine : Synthesis from : Nicotinonitrile

(2) **Vitamins** : Introduction and classification, Source, structure and deficiency diseases of the following vitamins:

a) Vitamin A, D, E and K (Fat Soluble)

b) Vitamin B_1, B_2, B_3, B_6, B_{12} and C (Water Soluble)

(3) **Pesticides**: Introduction and classification: Insecticides, Herbicides, Fungicides and Rodenticides. Synthesis and technical manufacture and uses of representative pesticides in the following classes : Organochlorines(DDT, Gammexene,); Organophosphates (Malathion), Carbamates (Carbaryl), Quinones (Chloranil), Anilides (Alachlor).

Section – B (Inrganic Chemistry)

Unit–V: Coordination Chemistry (Part-I) **10 Periods**

1) Introduction: addition or molecular compound, double salt, coordination compound. Comparison of double salt and coordination compound.
2) Terminology: complex ion, central metal atom, ligand, types of ligands, coordination number and coordination sphere.
3) Nomenclature: Rules of nomenclature of coordination compound, and its applications to nomenclature of simple and bridging complex compounds.
4) Werner's theory of coordination compound, postulates, applications with reference to $CoCl_3.6NH_3$, $CoCl_3.5NH_3$, $CoCl_3.4NH_3$, $CoCl_3.3NH_3$.
5) Chelating agents and its classification, difference between metal complex and metal chelate complex.
6) Isomerism: Structural isomerism, ionization, hydrate, linkage, coordination isomerism, Geometrical isomerism, optical isomerism in 4 and 6 coordination complex.
7) E. A. N. of metal complexes.

Unit-VI: The Chemistry Of Elements In Medicine **05 Periods**

1) Introduction
2) Chelation Therapy
3) Cancer Treatment
4) Anti-arthritis drugs.
5) Imaging agents.

Reference Books:

1) Organic chemistry by S.M.Mukherji, S.P.Singh, R.P.Kapoor (Vol. II & III)
2) Organic Chemistry by Jagdamba Singh, L.D.S.Yadav (Vol. II & III)
3) A text book of organic chemistry by P.L.Soni, H.M.Chawla
4) A text book of organic chemistry by K.S.Tewari, S.N.Mehrotra, N.K.Vishnoi
5) A text book of organic chemistry by ArunBahl and B.S.Bahl
6) Principles of organic chemistry by M.K.Jain
7) Heterocyclic chemistry synthesis, reactions and mechanism by Raj K. Bansal
8) Reaction mechanism and reagents in organic chemistry by G.R.Chatwal
9) Synthetic organic chemistry by G.R.Chatwal

10) Natural products by O.P.Agarwal (Vol. I & II)
11) Spectroscopy of organic compounds by P.S.Kalsi
12) Elementary organic absorption spectroscopy by Y.R.Sharma
13) Absorption spectroscopy of organic molecules by V.M.Parikh
14) Chemistry of pesticides by K.H.Buchel (T.W.)
15) Polymer Science by V.R.Gowarikar, N.V.Viswanathan and JayadevSreedhar
16) Medical Chemistry by Burger
17) Organic Chemistry by Clayden, Greeves, Warren and Wothers
18) Reactions, Rearrangements and reagents by S.N.Sanyl
19) Synthetic organic chemistry by KamleshBansal
20) A text book of synthetic drugs by O.D.Tyagi, M.Yadav
21) Synthetic drugs by G.R.Chatwal
22) Synthetic dyes by G.R.Chatwal
23) Industrial Chemistry by B.K.Sharma
24) Organic Chemistry by Morrison and Boyd
25) Organic Chemistry by Carey
26) Organic Chemistry by L.G.Wade
27) Inorganic chemistry (5th edition) by Shriver Atkins
28) Organic Chemistry by Cram D.J. and Hammond G.S.
29) Organic Chemistry by I.L.Finar
30) Advanced Organic Chemistry by Jerry M
31) Inorganic chemistry (5th edition) by Shriver Atkins
32) Organic Chemistry by Cram D.J. and Hammond G.S.
33) Organic Chemistry by I.L.Finar
34) Advanced Organic Chemistry by Jerry March
35) Organic Chemistry by Fieser and Fieser
36) Principles of Inorganic Chemistry by Puri, Sharmaand Kalia.
37) Inorganic Chemistry by Gurudeep Raj, Chatwal.
38) Advanced Inorganic Chemistry Vol. II by Satyaprakash, Tuli, Basu and Madan.
39) Inorganic Chemistry by huheey, Keiter and Keiter.
40) Concise Inorganic Chemistry by J.D. Lee.

Objectives:	To understand reaction mechanism in organic Hetrocyclic synthesis. To learn theories and principles related to heterocyclic chemistry. To Understand Classification and structure Activity and relationship of some drugs and dyes To create an interest of students to Vitamins and pesticides To learn the co-ordination Chemistry and the chemistry of elements in Medicine.
Course Outcomes:	
CO1	After completion of this course, student will be able to Organic reaction and mechanism pathways.
CO2	Nomenclature of various heterocycles
CO3	Recognize and comment on different synthetic drugs and dyes
CO4	Able to discuss the uses and synthesis of some vitamins and pesticides
CO5	Understand the basic principle and application of coordination complexes
CO6	Know the application of elements in Medicine

B. Sc. Third Year: Semester-V
Paper-XIII, (DSEC-V, Section B)
(B_1)
Physical & Inorganic Chemistry

Marks – 50 **Periods – 45**

Section – A (Physical Chemistry)

Unit –I **09 Periods**

Spectroscopy-I:

1) Brief introduction to molecular Spectroscopy. Width and intensity of spectral lines. Factors affecting width and intensity of spectral lines.

2) Rotational spectra:

Classification of molecules, Rotational spectra of diatomic molecules.(Rigid rotator model) Moment of inertia, energy levels of rigid rotator, selection rule, spacing between spectral lines of diatomic rigid rotator, isotopic effect. Numericals.

3) Vibrational Spectra:

Infrared spectrum, simple harmonic oscillator model, energy levels of simple harmonic oscillator, selection rule, pure vibrational spectrum, intensity, determination of force constant, qualitative relation between force constant and bond energies. Numericals on force constant.

Unit –II **05 Periods**

Spectroscopy-II:

1) Raman spectra:- Raman Effect, Concept of Polarizability, classical and quantum theory of Raman scattering, rotational Raman spectrum of a diatomic molecule. Experimental Raman Spectroscopy.

2) Electronic spectra:- Concept of potential energy curve, Franck-Condon Principle, Types of electronic transitions.

Unit- III **08 Periods**

Chemical Kinetics:

1) Introduction, Third order reaction with equal concentration of all reactants, characteristics of third order reaction.

2) Kinetics of complex reaction: i) Opposing reaction ii) Consecutive reaction

3) Kinetics of Photochemical reaction : i) Hydrogen –chlorine reaction

ii) Decomposition of HI iii) Dimerization of anthracene.

Unit -IV **08 Periods**

Distribution Law:

1) Introduction, Nernst Distribution law, Solubility and distribution law, Limitations of law.
2) Association and dissociation of solute in solvent.
3) Henry's law.
4) Determination of equilibrium constant from distribution coefficient.
5) Extraction of solvent.
6) Liquid -liquid chromatography.
7) Applications of distribution law.
8) Numericals on distribution law

Section B (Inorganic Chemistry)

Unit- V: **Organometallic Compounds** **09 Period**

1) Definition
2) Nomenclature and classification of organometallic compounds
3) Preparation, properties, structure of organolithium.
4) Preparation, properties, structure of ferrocene.

Unit -VI: **Metal Carbonyls** **06 Period**

1) Definition, types.
   a) Mononuclear carbonyls, characteristics and examples.
   b) Polynuclear carbonyls, characteristics and examples.
2) Preparation, properties and structure of Nickel tetra carbonyl.
3) Nature of metal carbon bond in metal carbonyl and their evidences.
4) Structure of $Fe_2(CO)_9$, $Fe_3(CO)_{12}$, $Ir_4(CO)_{12}$, $Co_2(CO)_8$.

Reference Books:

1. Physical Chemistry by G. M. Barrow (Tata Mc-Graw Hill publishing Co., Ltd.)
2. Elements of Physical Chemistry by S. Glasstone & D. Lewis (D.vannostrand co. inc.)
3. Physical Chemistry by W. J. Moore (Orient Longman).
4. Principles of Physical Chemistry by S. H. Maron and C. F. Prutton.
5. University General Chemistry by C. N. R. Rao (Mc-Millan).
6. Elements of Physical Chemistry by P. W. Atkins. (Oxford University Press).
7. Physical Chemistry by R. A. Alberty (Wiley Eastern Ltd.).
8. Physical Chemistry through problems by S. K. Dogra, D. Dogra(Wiley Eastern Ltd)
9. Principles of Physical Chemistry by Puri, Sharma and Pathania (Vishal Publication Jallandher, Delhi)
10. Physical Chemistry by A. J. Mee. ELBS & Heinemann Educational Books Ltd.
11. Essentials of Physical Chemistry by ArunBhal, B. S. Bahl and G. D. Tuli. (S. Chand)
12. Chemical Kinetics by K. J. Laidler (Tata Mc-Graw Hill Publishing Co. Ltd).
13. Text Book of Physical Chemistry by Soni-Dharmarha.
14. A Text Book Physical Chemistry by S. Glasstone, (Mac Millan.)
15. Advanced Physical Chemistry by D.N.Bajpai. (S.Chand)
16. Advanced Physical Chemistry by Gurdeep Raj. (Goel publishing house, Meerut).
17. Principles of Inorganic Chemistry by Puri, Sharma and Kalia.
18. Inorganic Chemistry by Gurudeep Raj, Chatwal.
19. Advanced Inorganic Chemistry Vol. II by Satyaprakash, Tuli, Basu and Madan.
20. Inorganic Chemistry by huheey, Keiter and Keiter.
21. Inorganic Chemistry by J.D. Lee.

Objective(s)	To enable the students to acquire basic knowledge in Spectroscopy, Chemical Kinetics, Distribution law, Organometallic Compunds and Metal Carbonyls.
Course Outcome(s)	
CO1	Understand the concepts of molecular Spectroscopy and its applications
CO2	Analyze Rotational, Vibrational and Raman Spectra
CO3	Interpret the theoretical and experimental methods of chemical kinetics
CO4	Know the theory and application of Distribution law
CO5	Explain the Nomenclature, classification and application of Organometallic Compounds
CO6	Illustrate the classification and application of Metal Carbonyls

Elective paper (Semester-Vth)
Paper No. : P-XIII
DSEC-V (Section-B)
(B_2)
Physical + Inorganic Chemistry

Periods: 45 **Mark: 50**

Unit- I: **Solutions of Non Electrolytes-I** **07 Periods**

1) Solutions of liquids in liquids-(only binary liquids)
2) Raoult's law.
3) Vapour pressure of ideal solutions.
4) Total vapour pressure in terms of mole fraction.
5) Activity of a component in ideal solutions.
6) Chemical potential of an ideal and non ideal solution.

Unit- II: **Solutions of Non Electrolytes-II** **07 Periods**

1) Gibb's Duhem-Margules equation and ideal solution.
2) Temperature dependence of vapour pressure of solution.
3) Thermodynamics of ideal solution.
4) Free energy change of mixing, enthalpy change of mixing, entropy change of mixing, volume change of mixing.

Unit- III: **Magneto Chemistry And Magnetic Properties of Substance:** **06 Periods**

1) Introduction, Magnetic susceptibility, Specific susceptibility, unit of measurement.
2) Types of substances: Paramagnetic, diamagnetic and ferromagnetic.
3) Effect of temperature on Paramagnetic, diamagnetic, ferromagnetic substances.
4) Measurement of magnetic susceptibility: Gouy's method.

Unit- IV: **Polarography:** **10 Periods**

1) Principle and theory of poloragraphy.
2) Ilkovic equation and its significance
3) Half wave potential and its determination.
4) Construction and working of dropping mercury electrode.
5) Advantages and disadvantages and DME.
6) Applications of polarography: Estimation of organic and inorganic substances, analysis of mixture of compounds, determination of diffusion coefficient, determination of stability constant of metal ion complex.

Section B (Inorganic Chemistry)

Unit- V: Isopoly and Hetéropoly acids and anions. **10 Periods**

1) Introduction.
2) Polymerisation of CrO_4^{-2} . Anion. and W_6^{+}
3) Isopoly anions and isopoly acids of Mo_6^{+}
4) Hetéropoly anions and Hetéropoly acids.
5) Tetrahedral Heteroatom) Polyanions.
6) (Tetrahedral Heteroatom) Polyanions.
7) (Octahedral Heteroatom) Polyanions.
8) (Icosahedral Heteroatom) Polyanions Important Reaction of Isopoly anions and Heteropolyanions.

Unit- VI: Concept of Isolobality and Isolobality analogies. **05 Periods**

1) Introduction.
2) Isolobality organometallic fragments and main group fragments.
3) The Isolobality fragments, upon polymerization.
4) The structure of Ir $(CO)_{12}$ and P_4 fragments.
5) The structure of $Os(CO)_4$ and CH_2 fragments

Reference Books:

1) Principles of physical chemistry –Puri, Sharma, pathania (VPC) 45th Edition.
2) Elements of physical chemistry –P.W. Atkins (oxford University Press)
3) Text book of physical chemistry –Soni, Darmarha
4) Advanced physical chemistry –Gurudeep Raj (Goel Publishing House)
5) Instrumental methods of chemical analysis – Chatwal Anand
6) Instrumental methods of chemical analysis – B.K. Sharma.

Objective(s)	Creating awareness among students about the importance of Solution of Non Electrolytes, Magneto chemistry, Polarography, Isopoly and Heteropoly acids and Anions, Concept of Isolobality and Isolobality analogies is the prime aim of the course.
Course Outcome(s)	
CO1	Know the importance of Solutions of Non Electrolytes
CO2	Explain the types of magnetic substances and effect of temperature on it
CO3	Study the theory and application of Polarography
CO4	Analyze the application of Isopoly and Heteropoly acids and anions
CO5	Introduction and application of Isolobality and Isolobality analogies

Practical paper (Semester- V &VIth)
DSECP-IV
DSEC V & VIth (Section-A)
Organic + Inorganic Chemistry
Paper No. : P-XVI

Periods – 120 Laboratory Course – IV (CH-305) Mark 50

Note: **At least Sixteen experiments to be completed: (Twelve from Section A and four from Section B)**

Section – A (Organic Chemistry)

01. Organic qualitative analysis: (Seven mixtures)

Separation of organic binary mixture containing two solid components (Using NaHCO3, NaOH and HCl) and analysis of (both/one) components with preparation one derivative of each.

At least one mixture from each of the following types should be given:

a) Acid + Phenol b) Acid + Base
c) Acid + Neutral d) Phenol + Base
e) Phenol + Neutral f) Base + Neutral

Following compounds should be used for preparation of mixtures:

A] Acids : Salicylic acid, Phenyl acetic acid, o-Chlorobenzoic acid, aspirin, ophthalmic acid cinnamic acid, Benzoic acid, m-cholorobenzoic acid.

B] Phenols: α -naphtha, β -naphtha, Resorcinol, p-nitro phenol, m-nitro phenol, Hydroquinone,

C] Bases : o-nitroaniline, m-nitroaniline, p-nitroaniline, p-anisidine, diphenylamine, p-Toluidine, p-chloroaniline

D] Neutrals: Acetanilide, Anthracene, Benzamide, Benzophenone, Biphenyl, Naphthalene, m-Dinitrobenzene, p-Dichloro benzene

02. Organic Preparation: (Any five)

[Weight of crude product, crude % yield, recrystallisation of crude product and its melting point expected]

a) Acetylation: Preparation of Aspirin from salicylic acid

OR

Preparation of β -naphtyl acetate from β -naphthol

b) Electrophilic substitution:

Preparation of p-nitroacetanilide from acetanilide (Nitration)

Preparation of 2, 4, 6 – Tribromoaniline from aniline (Bromination)

OR

Preparation of p-bromo acetanilide from acetanilide (Bromination)

c) Diazotisation : Preparation of Methylorange from sulphanilic acid (Coupling)

OR

Preparation of p-iodonitrobenzene from p-nitroaniline (Replacement)

Benzoylation : Preparation of β -naphtyl benzoate from β -naphthol

OR

Preparation of Benzanilide from aniline

e) Osazone formation: Preparation of Glucosazone from Glucose

f) Amide Formation: Preparation of Benzamide from benzoic acid

g) Hydrolysis: Preparation of p-nitroaniline from p-nitroacetanilide

h) Reduction: Preparation of m-nitroaniline from m-Dinitrobenzene

i) Oxidation: Preparation of Benzoic acid from Toluene

j) Polymerisation: Preparation of phenol formaldehyde resin

03. Only demonstrations:

a) Extraction of clove oil from crushed cloves by steam distillation.
b) Separation of a mixture of methyl orange and methylene blue by column chromatography
c) Separation of a mixture of amino acids by ascending paper chromatography.
d) Separation of various pigments in the extract of spinach leaves by TLC.

Section – B (Inorganic Chemistry)

1. Gravimetric estimation of Iron as Fe_2O_3.
2. Gravimetric estimation of Ba as $BaSO_4$
3. Gravimetric estimation of Nickel as $Ni(DMG)_2$.
4. Gravimetric estimation of Aluminium as $Al(Oxinate)_3$.
5. Gravimetric estimation of zinc as ZnO
6. Gravimetric estimation of Chloride as AgCl

Reference Books:

1) Practical organic chemistry by A.I.Vogel
2) Advanced practical organic chemistry by O.P.Agarwal
3) Advanced practical organic chemistry by N.K.Vishnoi
4) Hand book of organic qualitative analysis by H.T.Clarke
5) Experimental practical organic chemistry by P.R.Singh, D.S.Gupta
6) A laboratory Hand book of organic qualitative analysis by V.S.Kulkarni
7) Hand book of organic qualitative analysis by F.G.Mann, B.C.Sunders
8) A text book of Practical Chemistry for B.Sc. by V.V. Nadkarni, A.N. Kothare and Y.V. Lawande.
9) Advanced practical Inorganic Chemistry by O.P. Agarwal.

Swami Ramanand Teerth Marathwada University Nanded
B.Sc. III Chemistry Practical Paper (Elective)
Physical + Inorganic Chemistry (XVII)

Periods – 120 Marks 50

Section A: Physical Chemistry

(Instrumental & Non Instrumental any 12)

1) To study the variation of Viscosity of Liquid Nitrobenzene with temperature.
2) To study the effect of surfactant on surface of water by using Stalagmometer.
3) Determination of solubility of an inorganic salt in water at different temperature and hence determine the solubility curve.
4) Determination of partition coefficient of iodine between water and CCl_4.
5) To investigate the absorption of acetic acid from aqueous solution by activated Charcoal and examine the validity of Freundlich and Langmuir's isotherm.
6) Investigate the reaction kinetics between potassium persulphate and potassium iodide by Colorimetric measurement.
7) Determine the relative strength of given two acids by polarimetric measurement.
8) Determine the half wave potential of metal ion by polarography.
9) To estimate the amount of Cd^{++} ion in an unknown solution by polarography.
10) To plot the current voltage curve for 0.05 M sulphuric acid using platinum electrode
11) To study the polarographic waves produced by dissolved oxygen.
12) Determination of formula and stability constant of metal ion complex by polorography.
13) Determine the acid and basic dissociation constant of amino acid and hence determine isoelectric point of acid conductometrically.
14) To determine the solubility of sparingly soluble salt at different temperature.

Section B : Inorganic Chemistry

Separation and estimation of any one metal ion from binary mixture. (any 04)

1. Ni^{++} and Cu^{++}
2. Cu^{++} and Fe^{++}
3. Ba^{++} and Mg^{++}
4. Fe^{++} and Zn^{++}
5. Cu^{++} and Ba^{++}

Reference Books:

1) Practical organic chemistry by A.I.Vogel
2) Advanced practical organic chemistry by O.P.Agarwal
3) Advanced practical organic chemistry by N.K.Vishnoi
4) Hand book of organic qualitative analysis by H.T.Clarke
5) Experimental practical organic chemistry by P.R.Singh, D.S.Gupta
6) A laboratory Hand book of organic qualitative analysis by V.S.Kulkarni
7) Hand book of organic qualitative analysis by F.G.Mann, B.C.Sunders
8) A text book of Practical Chemistry for B.Sc. by V.V. Nadkarni, A.N. Kothare and Y.V. Lawande.
9) Advanced practical Inorganic Chemistry by O.P. Agarwal.

SEC III
DSECP-III
DSEC V & VIth (Section-A)
Skill Enhancement Course (A)

Periods – 45 **02 Credits**

Spectroscopic Techniques and Cosmetic Preparation

1. Instruments in spectroscopy. 15
   Instrumentation: Study of UV, IR, NMR and Mass spectroscopy.
2. Determination of structures of organic compounds by using UV, IR, NMR and Mass spectra: 15
   Hydrocarbons, unsaturated hydrocarbons, alcohols, amines, aldehydes, ketones, carboxylic acids and esters, acid halides, amides and anhydrides.

1. Preparation of cosmetics 15

i) Preparation of talcum powder
ii) Preparation of shampoo
iii) Preparation of face cream
iv) Preparation of nail polish and nail polish remover

OR

<u>BASIC ANALYTICAL CHEMISTRY</u>

1. Introduction To Analytical And Instrumental Methods 15

Analytical chemistry, chemical analysis, instrumental methods, analytical methods on the basis of sample size, sampling, sampling statistics.

2. Errors, Evaluation And Statistics 30

Types and sources of errors, determinate errors, indeterminate errors, accuracy, absolute and relative error, precision, minimization of errors, significant figures, methods for reporting analytical data, statistical evaluation of data, mean, median and standard deviation, reliability of results, rejection of results, the Q-test, confidence interval, tests of significance, student's t-test, paired t- test, chi- square and f- test, numericals on T-test, Q-test and F-test.

Reference Books:

1. An introduction to analytical chemistry, S. A. Iqbal, M. Satake, Y. Mido and M. S. Shethi.
2. College analytical chemistry: Joshi, Baliga and Shetty, Himalaya Publishing house.
3. Qualitative analysis: Day and Underwood.
4. Qualitative inorganic analysis: A. I. Vogel.
5. Principles of analytical chemistry: Pandit and Soman.
6. Anayltical chemistry, G. D. Christian, J. Wiley eastern press Ltd.
7. Analytical chemistry: Alka Gupta.
8. Basic concepts of analytical chemistry: S. M. Khopkar.
9. Advanced practical organic chemistry: Vishnoi.
10. Jeffery, G.H., Bassett, J., Mendham, J. & Denney, R.C. *Vogel's Textbook of Quantitative Chemical Analysis*, John Wiley & Sons, 1989.
11. Christian, G.D; *Analytical Chemistry*, 6th Ed. John Wiley & Sons, New York, 2004.

Objective(s)	To train the students for the use of analytical and instrumental methods
Course Outcome(s)	
CO1	Able to know analytical and instrumental methods
CO2	Grasp the concept of errors, evaluation and statistics

B. Sc. Third Year: Semester-VI
(DSEC-VI, Section A)
(A_1)
Organic & Inorganic Chemistry
Paper-XIV

Marks – 50 **Periods – 45**

Section – A (Organic Chemistry)

Unit-I: Spectroscopic Methods: **08 Periods**

i) Introduction, Electromagnetic radiations; Characteristics of EMR: a) Wave length b) Wave number, c) Frequency, d) Energy of EMR.

ii) Electromagnetic spectrum; Meaning of Spectroscopy, types of Spectroscopy and advantages of Spectroscopic methods.

(A) Ultraviolet Spectroscopy:

1.1.1 Introduction.
1.1.2 Types of Electronic Transitions.
1.1.3 Terms used in UVSpectroscopy: Chromophore, Auxochrome, Bathochromic Shift, Hypsochromic Shift, Hypochromic and Hyperchromic effects.
1.1.4 Effect of conjugation on position of UV and Visible bands.
1.1.5 Calculation of λ_{max} by Woodward-Fieser rules for conjugated dienes and enones.
1.1.6 Spectral problems based on UV.

(B) Infra-Red Spectroscopy:

1.2.1Introduction.
1.2.2 Theory of molecular vibrations (Basic Principles and Types of Vibrations).
1.2.3 Functional group region and Fingerprint region.
1.2.5 Characteristic absorption of various functional groups.
1.2.6 Interpretation of IR spectra of following organic compounds: a) Ethane, b) Ethene, c) Ethyne, d) Benzene, e) 1-Propanol, f) 2-Propanol, g) t-Butyl alcohol, h) Phenol, i) Acetone, j) Acetophenone, k) Acetaldehyde, l) Benzaldehyde, m) Benzoic acid, n) Methylbenzoate and o) Phenylcyanide.

Unit – II:

(A) NMR-Spectroscopy: **08 Periods**

2.1 Introduction
2.2 Principle of NMR Spectroscopy
2.3 Magnetic and non-magnetic nuclei
2.4 PMR-Spectroscopy:Spinning nuclei, magnetic moment and magnetic field, precessional motion, energy states for proton in magnetic field (Orientations) and nuclear resonance.
2.5 Equivalent and non-equivalent protons.
2.6 Number of absorption signals in the following compounds:a) Acetone, b) Cyclobutane, c) Methanol, d) Ethylbenzene, e) Ethyamine, f) Mesitylene, g) Diethylether,
2.7 Shielding and deshielding effects: (Example of Acetylene and Benzene)
2.8 Chemical shift, measurement of chemical shift by delta scale and tau scale
2.9 TMS as reference, Advantages of TMS.
2.10 Peak area (integration) andSpin-spin splitting (n+1) rule.
2.11 Interpretation of PMR Spectra of following compounds: a) Ethyl bromide, b) Ethyl alcohol, c) Acetaldehyde, d) 1,1,2-tribromo ethane, e) Ethyl acetate, f) Toluene, g) Acetophenone, h) Ethylamine, i) Acetic acid, j) Benzoic acid.

(B) Applications of IR, UV and NMR for identification of simple organic molecules: 04 Periods

OrganicMolecules: a) n-Propyl alcohol, b) i*so*-Propyl alcohol, c) *tert*-Butyl alcohol, d) Acetic acid, e) Ethylamine, f) Ethyl cyanide, g) Ethyl methyl ketone, h) Ethyl acetate, i) Ethyl benzene, j) Phenyl acetaldehyde, k) Phenol, l) Ethyl methyl ether, m) Ethylene glycol, n) Propionamide and o) Propionaldehyde.

Unit – III: Synthetic Polymers: **06 Periods**

3.1 Introduction, Homopolymers and Copolymers.
3.2 Classification of Polymers on the basis of source.
3.3 Types of Polymerisation reactions:
a) Addition (Chain-Growth) Polymerisation reaction: (with mechanism)
i) Free radical, ii) Cationic and iii) anionic
b) Condensation (Step-Growth) Polymerisation reaction
Example: Bakelite (Phenol-formaldehyde resin)
3.4 Synthesis and uses of following polymers :
a) Nylon-6, 10, b) Polyurethanes, c) Neoprene, d) Polymethylmethacrylate.

Unit – IV: Molecular Rearrangements: **04 Periods**

4.1 Introduction, classification of rearrangements: On the basis of migratory group
(a)Electrophilic rearrangement (ex. Pinacol-Pinacolone rearrangement)
(b) Nucleophilic rearrangement (ex. Favorskii rearrangement)
(c)Free Radical rearrangement (ex. Photo-Fries rearrangement)
(d)Aromatic rearrangement (ex.Stevens rearrangement)

Section – B (Inorganic Chemistry)

Unit-V: Coordination theory (Part-II) **10 Period**

1) Valence bond theory of coordination compounds: Postulates, inner orbital and outer orbital complexes of coordination number 4 and 6. Limitations of VBT.
2) Crystal field theory: Shape of d-orbital's, postulates, splitting of d-orbital in octahedral complexes, tetrahedral complexes, tetragonal and square planar complexes.Definition of CFSE, calculations of CFSE for octahedral and tetrahedral complexes.
3) Factors affecting 10 Dq or magnitude of crystal field splitting: Nature of ligand, oxidation state of metal ion, size of d orbital, geometry of complexes.
4) Applications of CFT.
5) John teller effect in octahedral complexes of Cu^{++}.
6) Limitations of CFT.

Unit- VI: Electronic spectra of Transition metal complexes: **05 Period**

1) Types of electronic transition
2) Selection rule for d-d transition
3) Spectroscopic ground state and spectro-chemical series
4) Orgel energy level diagram for $d^1$and d^9 states
5) Discussion of electronic spectrum of $[Ti(H_2O)_6]^{3+}$ complex ion

Reference Books:

1) Organic chemistry by S.M.Mukherji, S.P.Singh, R.P.Kapoor (Vol. II & III)
2) Organic Chemistry by Jagdamba Singh, L.D.S.Yadav (Vol. II & III)
3) A text book of organic chemistry by P.L.Soni, H.M.Chawla
4) A text book of organic chemistry by K.S.Tewari, S.N.Mehrotra, N.K.Vishnoi
5) A text book of organic chemistry by Arun Bahl and B.S.Bahl
6) Principles of organic chemistry by M.K.Jain
7) Heterocyclic chemistry synthesis, reactions and mechanism by Raj K. Bansal
8) Reaction mechanism and reagents in organic chemistry by G.R.Chatwal
9) Synthetic organic chemistry by G.R.Chatwal
10) Natural products by O.P.Agarwal (Vol. I & II)
11) Spectroscopy of organic compounds by P.S.Kalsi
12) Elementary organic absorption spectroscopy by Y.R.Sharma
13) Absorption spectroscopy of organic molecules by V.M.Parikh
14) Chemistry of pesticides by K.H.Buchel (T.W.)

15) Polymer Science by V.R.Gowarikar, N.V.Viswanathan and Jayadev Sreedhar
16) Medical Chemistry by Burger
17) Organic Chemistry by Clayden, Greeves, Warren and Wothers
18) Reactions, Rearrangements and reagents by S.N.Sanyl
19) Synthetic organic chemistry by Kamlesh Bansal
20) A text book of synthetic drugs by O.D.Tyagi, M.Yadav
21) Synthetic drugs by G.R.Chatwal
22) Synthetic dyes by G.R.Chatwal
23) Industrial Chemistry by B.K.Sharma
24) Organic Chemistry by Morrison and Boyd
25) Organic Chemistry by Carey
26) Organic Chemistry by L.G.Wade
27) Organic Chemistry by Cram D.J. and Hammond G.S.
28) Organic Chemistry by I.L.Finar
29) Advanced Organic Chemistry by Jerry March
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31) Principles of Inorganic Chemistry by Puri, Sharmaand Kalia.
32) Inorganic Chemistry by Gurudeep Raj, Chatwal.
33) Advanced Inorganic Chemistry Vol. II by Satyaprakash, Tuli, Basu and Madan.
34) Inorganic Chemistry by huheey, Keiter and Keiter.
35) Concise Inorganic Chemistry by J.D. Lee.

Objective(s):	To familiarize concept and elucidate the structure of organic molecules by UV, IR and PMR Spectroscopy. To understand the concept of polymers its applications. To learn reaction and mechanism Molecular Rearrangements. To learn Co-ordination theory and Electronic Spectra of transition Metal Complexes
Course Outcome(s)	
CO1	Learn the basic principle and terms used in UV, IR & NMR Spectroscopy.
CO2	Apply spectroscopic techniques in analyzing the structure of simple organic molecules.
CO3	Acquire the basic knowledge and synthesis of polymers.
CO4	Describe the types of Rearrangement.
CO5	Postulates and limitations of VBT and CFT
CO6	Calculation of CFSE for Tetrahedral and Octahedral Complexes
CO7	Explain the types of electronic transition and selection rule
CO8	Apply spectroscopic techniques in analyzing the structure of simple organic Molecules

Elective paper (Semester-VIth)
Paper No. : P-XIV
DSEC-VI (Section-A)
(A_2)
Organic + Inorganic Chemistry

Marks – 50 **Periods – 45**

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1. Sugar and Alcohol Industry **09 Period**

1) Manufacturing of raw cane sugar.
2) Refining of raw sugar.
3) White sugar.
4) Biproducts of sugar industry.
5) Manufacturing of ethyl alcohol from molasses.
6) Rectified spirit, denatured spirit absolute alcohol and powdered alcohol.
7) Bi-products of alcohol industry.

2. Textile Chemistry **08 Period**

1) Introduction and classification of fibers
2) Sizing:
   a) Object of sizing, sizing ingredients and their functions.
   b) General idea of properties of starch, softness, synthetic adhesives.
3) Bleaching:
   a) Brief study of outline of the process of bleaching cotton and synthetic material.
   b) General idea of processes like singeing, desizing, scouring.
4) Dyeing: Study of dyeing, dyeing of cellusosic material and synthetic fibres with dyes like direct, vat, reactive and dispersed dyes.

3. Agro chemistry **07 Period**

1) General idea of agrochemicals including pyrethroides.
2) Synthesis and uses of following agro-chemicals.
   a) Indole-3-acetic acid
   b) Ethophan
   c) Monochrotophos.
3) Fertilizers: Introduction and advantages of nitrogenous fertilizers, phosphatic fertilizers, potassic fertilizer and complex fertilizers.

4. Green Chemistry **06 Period**

1) Introduction: Twelve principles of green chemistry.
2) Zeolites: Friedel-Craft alkylation and acylation, oxidation of benzene to phenol and benzoquinone, reduction of benzoquinone to hydroquinone.
3) Biocatalytic reactions: hydroxylation and oxidation using enzymes.
4) Introduction to microwave assisted reactions.

Section (B) Inorganic Chemistry

5. Inroganic Polymers **09 Period**

1) Introductioon
2) Basic concepts and definition
   i) Polymer ii) Monomer iii) polymerization iv) copolymer
   v) Degree of polymerisation
3) Classification of polymers on basis of: i) Origin ii) composition
   iii) properties iv) uses
4) Comparison between organic and inorganic polymers
5) Polymer backbone
6) Homoatomic polymers containing-phosphorus
7) Heteroatomic polymers i) Silicones ii) phosphonitrilic compounds
   iii) Fluorocarbons.

6. Nanotechnology **06 Period**

1) Introduction.
2) Properties of nanoparticles.
3) Application of nanoparticles.

Reference books:

1. Basic concept of analytical chemistry by S. M. Khopkar, Wiley estern ltd. Bombay.
2. Industrial chemistry by R. K. Das, Asia publication Mumbai.
3. Rigegels hand book of industrial chemistry by J. A. Kent, Van. Nostrard, London.
4. Chemistry process industries by shreve and Brinic- Ostim, Magraw Hill New York.
5. Biotechnology and applied microbiology by Alani and Moo-young.
6. Immobilize Biocatalysis by Joy Wleser
7. Introduction to polymer chemistry by Reymano B. Seymour.
8. Advances in green chemistry: chemical synthesis using microwave irradiation by R. S. Varma.
9. Green chemistry: Environment friendly alternatives: by Rashmi Sanghi and M. M. shrivastav (Eds) © 2003 Narosa publishing house New Delhi India.
10. Textile Science by J. T. Marsh
11. Book of textile by A. J. Hall.
12. Sizing by D. B. Ajagaonakar
13. Bleaching by V. A. Sheni.
14. Dyeing by V. A. Sheni.
15. Chemicals for crop improvement and pest management by Green, Hartly and Weste
16. Chemistry of pesticides by K. H. Buchel (T.W.)
17. Principles of inorganic chemistry by Puri, Sharma and Kalia.
18. Text Book of inorganic chemistry by K. N. Upadhyanaya Vikas publishing House New Delhi.
19. Progress in inorganic polymer by Laport and Leigh
20. Nanomaterials and nanostructures by Laura Castle, April Feter Dominant publisher 2007
21. Nanoscale materials in chemistry by K. J. Kalbunde (Wiley intersciences)
22. Introduction to Nanoscience and nanotechnology by K. K. Chatopadhya. A. N. Banerjee, PHI learning Pvt. Ltd., New Delhi.
23. Introduction to Nanotechnology by Charles P. Poole (Jr.), Frank J. Owen & Wiley students Etd., 2008.
24. Nanotechnology: future technology with futures, BPB publication, New Delhi.

Objective(s)	The aim of this paper is to expose the students with the knowledge in Sugar and Alcohol Industry, Textile Chemistry, Agro Chemistry, Green Chemistry, Inorganic Polymers and Nanotechnology
Course Outcome(s)	
CO1	Understand the Basic concept of Sugar and Alcohol Industry
CO2	Synthesis and uses of Agro Chemicals
CO3	To enable the students to understand the classification of Fibers
CO4	To learn the basic concept and classification of Inorganic Polymers
CO5	Able to understand the theory of green chemistry
CO6	Ability to apply green chemical laboratory techniques
CO7	To stimulate the learner in understanding the basic concepts and applications of nanotechnology.

B. Sc. Third Year: Semester-VI
(DSEC-VI, Section B)
Physical & Inorganic Chemistry
Paper-XV

Marks – 50 **Periods – 45**

Section – A (Physical Chemistry)

Unit –I Electrochemistry: **12 Periods**

1) Introduction, concept of electrode potential, single electrode potential, standard electrode potential, oxidization and reduction potential.
2) Electrochemical cells, electrolytic and Galvanic cells, reversible and irreversible cells, conventional representation of electrochemical cells.
3) EMF of cell, SHE.
4) Reference electrodes, indicator electrodes, calomel electrodes.
5) Solar cell: Principle, Construction, working and Applications.
6) Nernst equation, application of Nernst equation to oxidation half cell and reduction half cell.
7) Electrolyte concentration cell, Concentration cell with and without transport.
8) Application of EMF measurement in determination of pH by using
   a) Quinhydrone electrode b) Glass electrode.
9) Numericals on Nernst Equation.

Unit II : Thermodynamics I : **08 Periods**

1) Introduction.
2) Work function and free energy function(G): Helmholtz Function (A) or work function, Change of work function (A) at constant temperature, Gibbs' free energy function, relation between G and A, change of G at constant temperature, variation of work function with temperature and volume, variation of free energy function with temperature and pressure. The Gibb's-Helmholtz equation.
3) Thermodynamics of open system: partial molar properties; concept of chemical potential, partial molar free energy. Gibb's-Duhem equation. Variation of chemical potential with temperature and pressure. Chemical potential in case of a system of ideal gases.

Unit-III: Thermodynamics II: **04 Periods**

1) Thermodynamic derivation of law of mass action. Relation between ΔG^0 and KP, relation between K_P, K_C and K_X.
2) Vant-Hoff's reaction isochore. Integrated form of Vant-Hoff's equation.
3) Clausius-Clapeyron equation and its applications.
4) Numerical on Integrated form of Vant-Hoff's equation.

Unit-IV: Colligative Properties: **06 Periods**

1) Osmotic pressure.
2) Relative lowering of vapor pressure.
3) Elevation in boiling point.
4) Depression in freezing points and relation of these properties with molecular weight. Numericals on elevation of boiling point and depression in freezing point.

Section B (Inorganic Chemistry)

Unit -V: **Bioinorganic Chemistry** **05 Periods**

1) Essential and trace elements in biological processes.
2) Metalloporphyrin with special reference to hemoglobin and myoglobin.
3) Biological role of alkali and alkaline earth metal ions.
4) Nitrogen fixation.

Unit -VI: **Metal cluster** **10 Periods**

1) Boranes.
2) Carboranes.
3) Metalloboranes.
4) Metallocarboranes.

Reference Books:

1. Physical Chemistry by G. M. Barrow (Tata Mc-Graw Hill publishing Co., Ltd.)
2. Elements of Physical Chemistry by S. Glasstone & D. Lewis (D.van nostrand co. inc.)
3. Physical Chemistry by W. J. Moore (Orient Longman).
4. Principles of Physical Chemistry by S. H. Maron and C. F. Prutton.
5. University General Chemistry by C. N. R. Rao (Mc-Millan).
6. Elements of Physical Chemistry by P. W. Atkins. (Oxford University Press).
7. Physical Chemistry by R. A. Alberty (Wiley Eastern Ltd.).
8. Physical Chemistry through problems by S. K. Dogra, D. Dogra(Wiley Eastern Ltd)
9. Principles of Physical Chemistry by Puri, Sharma and Pathania (Vishal Publication Jallandher, Delhi)
10. Physical Chemistry by A. J. Mee. ELBS & Heinemann Educational Books Ltd.
11. Essentials of Physical Chemistry by Arun Bhal, B. S. Bahl and G. D. Tuli. (S. Chand)
12. Kinetics by K. J. Laidler (Tata Mc-Graw Hill Publishing Co. Ltd).
13. Text Book of Physical Chemistry by Soni-Dharmarha.
14. A Text Book Physical Chemistry by S. Glasstone, (Mac Millan.)
15. Advanced Physical Chemistry by D.N.Bajpai. (S.Chand)
16. Advanced Physical Chemistry by Gurdeep Raj. (Goel publishing house, Meerut).
17. Principles of Inorganic Chemistry by Puri, Sharma and Kalia.
18. Inorganic Chemistry by Gurudeep Raj, Chatwal.
19. Advanced Inorganic Chemistry Vol. II by Satyaprakash, Tuli, Basu and Madan.
20. Inorganic Chemistry by huheey, Keiter and Keiter.
21. Concise Inorganic Chemistry by J.D. Lee.

Objective(s)	To familiarize the students with the concept and principle Electrochemistry, Thermodynamics, Colligative Properties, Bioinorganic Chemistry and Metal Clusters. Bioinorganic Chemistry and Metal Clusters
Course Outcome(s)	
CO1	Basic concepts of electrochemistry and its applications
CO2	Understanding the Nernst heat theorem and the Thermodynamics open system
CO3	Know the Vant-Hoff's Reaction Osochore and numerical on it
CO4	Biological role of alkali and alkaline earth metal ions
CO5	Describe the structures and functions of Metal Cluster

Practical paper (Semester- V &VIth)
DSECP-V
DSEC V & VIth (Section-B)
Physical + Inorganic Chemistry
Paper No. : P-XVII

Periods – 120 | Laboratory Course – IV (CH-306) | Mark 50

Note: **At least Sixteen experiments to be completed : (Twelve from Section A and four from Section B)**

Section – A (Physical Chemistry)

Instrumental

1. Determine the normality and strength of oxalic acid conductometrically using standard solution of strong base (NaOH/KOH).
2. Determine the concentration of KCl solution by titrating it with standard solution of $AgNO_3$ conductometrically.
3. Determine the equivalent conductance of a strong electrolyte at several concentrations and hence verify the Onsager's equation.
4. Determine the normality and strength of acids in mixture [strong acid (HCl/HNO_3) and weak acid ($CH_3COOH/HCOOH$)] potentiometrically using standard solution of strong base(NaOH/KOH).
5. Determine the dissociation constant of a weak acid ($CH_3COOH/HCOOH$) potentiometrically using standard solution of strong base (NaOH/KOH).
6. Determination of empirical formula of a complex between Fe^{+3} and 5-sulphosalicylic acid by Job's method colorimetrically.
7. Determination of dissociation constant of an organic acid (CH_3COOH) using various buffers ($CH_3COOH + CH_3COONa$) pH metrically.
8. To study inversion of cane sugar by polarimetrically.

Non-Instrumental

1. Determine the rate constant of the reaction between potassium persulphate and potassium iodide having equal concentrations of reacting species (a=b).
2. Determine energy of activation of hydrolysis of an ester by acid/base.
3. Investigate the reaction between bromic acid and hdroiodic acid.
4. Determine molecular weight of non volatile solute by Rast method / Beckomann's freezing point method.
5. Determine enthalpy change of neutralization of a strong acid by a strong base.
6. Determine interfacial tension between immiscible liquids, benzene and water by stalagmometer.
7. Determine molecular weight of a polymer by viscosity measurement.
8. Separation of mixture of o- and p-nitro anilines on an alumina column.
9. Determination of iron by solvent extraction techniques in a mixture of Fe(III) +Al(III) or Fe(III) + Ni(III) using 8–hydroxyquinoline reagent.
10. Separation of amino acids from organic acids by ion exchange chromatography.
11. Column chromatographic separation of pigments from green leaves

Section – B (Inorganic Chemistry)

1. Inorganic preparations and estimation of metal ion.

a) $[Cu(NH_3)_4]SO_4$
b) $[Ni(NH_3)_6]Cl_2$
c) $CoCl_3.4NH_3$
d) Sodium trioxalato ferrate
e) $Hg[Co(SCN)_4]$.
f) Mohr's salt, $[FeSO_4(NH_4)_2SO_4].6H_2O$

Reference Books :

1. Experimental Physical Chemistryby A. Findlay., Longman.
2. Advanced Practical Physical Chemistry by J.B. Yadav.
3. Experiments in Physical Chemistry by R.C. Das and B. Behra, Tata Mc Graw Hill.
4. Advanced experimental Chemistry Vol. I. Physical by J.N. Gurtu and R. Kapoor., S. Chand & Co.
5. Experiments in Physical Chemistry by J.C. Ghosh, Bharati Bhavan.
6. Practical book of Physical Chemistry by Nadkarni, Kothari & Lawande., Bombay Popular Prakashan.
7. Systematic Experimental Physical Chemistry by S.W. Rajbhoj, Chondhekar, Anjali Prakashan.
8. Practical Physical Chemistry by B.D. Khosla & V.C. Garg., R. Chand & Sons.
9. Experiments in Chemistry by D.V. Jagirdar.
10. Practical Chemistry, Physical – Inorganic – Organic and Viva – voce by Balwant Raii Satia., Allied Publishers Pvt. Ltd.
11. College Practical Chemistry by H.N. Patel, S.R. Jakali, H.P. Subhedar, Miss. S.P. Turakhia, Himalaya Publishing Hose, Mumbai.
12. College Practical Chemistry by Patel, Jakali, Mohandas, Israney, Turakhia, Himalaya Publishing Hose, Mumbai.
13. A text book of Practical Chemistry for B.Sc. by V.V. Nadkarni, A.N. Kothare and Y.V. Lawande.
14. Advanced practical Inorganic Chemistry by O.P. Agarwal

SEC IV
DSECP-IV
DSEC V & VIth (Section-B)
Skill Enhancement Course (B)

Periods – 45 **02 Credits**

FUEL CHEMISTRY

1. Introductions, classification of fuel, Characteristics of good fuel, criterion of selection fuel.**5**
2. Solid fuels, natural solid fuels, Advantages of solid fuels over liquid and gaseous fuels, grading of coal or classification of coal based on rank or grade **10**
3. Liquid fuels, origin of petroleum, types of petroleum, grading of petroleum, refining of petroleum. **5**
4. Gaseous fuels, advantages of gaseous fuels over solid and liquid fuels, types of gaseous fuels, water gas & producer gas Natural gas. **10**
5. Calorific value of a fuel, units of calorific value, net and gross calorific value, determination of calorific value of a solid or liquid fuel, bomb calorimeter, Calculation of calorific values of gaseous fuels, flash point and fire point, determination of flash point by Abel's flash point apparatus, Octane number of a fuel. **15**

OR

Computer Application in Chemistry

1. **Use of Softwares:** **15**
   ISIS draw, Chem draw and Chem sketch.
   For drawing the structures, elemental (CHN) analysis, determination of molecular mass, IUPAC name and prediction of spectral data NMR and MASS.
2. **Biological activity and Toxicity evaluation of organic compounds using software:** **15**
   Evaluation of toxicity risk assessment of organic compounds using online software.
   Prediction of different biological activities using online software.
3. **Use of Excel in Chemistry:** **15**

a) Functions and formulas: Sum, mean, average, power etc. Understanding formulas, the cell and the formula bar, the formula in action, copying formulas, copying and pasting a formula and complex formula.

b) Excel chart and data analysis:
   Visual representation of the data through excel graph, plotting and X-Y data set, create calibration curve, format the view graph, add trend line, equation of line and R-square value, determine the slope of a line, scale adjustment, examples, renaming the chart and worksheet, common charting errors, add a chart title.
   Add regrations and equation to graph, regration analysis, run the regression and interpreting regration results.

Reference Books:

1. Stocchi, E. *Industrial Chemistry*, Vol-I, Ellis Horwood Ltd. UK (1990).
2. Jain, P.C. & Jain, M. *Engineering Chemistry* Dhanpat Rai & Sons, Delhi.
3. Sharma, B.K. & Gaur, H. *Industrial Chemistry*, Goel Publishing House, Meerut (1996).
4. Advanced practical organic chemistry: Vishnoi.
5. list of websites for software and book for UG/PG syllabus:
   1) http://www.acdlabs.com/resources/freeware/chemsketch/
   Excel for Chemistry Excel in analytical chemistry by Robert de Levie – Book
   1) http://chemed.chem.purdue.edu/genchem/lab/datareports/excel/excel.html

Objective(s)	To familiarize the students with fuel chemistry To train the students for the use of Software, Excel
Course Outcome(s)	
CO1	Able to know types of fuels
CO2	Grasp the concept of calorific value of a fuel, flash point and fire point
CO3	Able to know the use of software and Excel in Chemistry

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.११/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

1. B.Sc.-II Year-Biophysics
2. B.Sc.-II Year-Bioinformatics
3. B.Sc.-II Year-Biotechnology
4. B.Sc.-II Year-Biotechnology (Vocational)
5. B.Sc.-II Year-Food Science
6. B.Sc.-II Year-Botany
7. B.Sc.-II Year-Horticulture
8. B.Sc.-II Year-Agro Chemical Fertilizers
9. B.Sc.-II Year-Analytical Chemistry
10. B.Sc.-II Year-Biochemistry
11. B.Sc.-II Year-Chemistry
12. B.Sc.-II Year-Dyes & Drugs Chemistry
13. B.Sc.-II Year-Industrial Chemistry
14. B.C.A. (Bachelor of Computer Application)-II Year
15. B.I.T. (Bachelor of Information Technology)-II Year
16. B.Sc.-II Year-Computer Science
17. B.Sc.-II Year-Network Technology
18. B.Sc.-II Year-Computer Application (Optional)
19. B.Sc.-II Year-Computer Science (Optional)
20. B.Sc.-II Year-Information Technology (Optional)
21. B.Sc.-II Year-Software Engineering
22. B.Sc.-II Year-Dairy Science
23. B.Sc.-II Year-Electronics
24. B.Sc.-II Year-Environmental Science
25. B.Sc.-II Year-Fishery Science
26. B.Sc.-II Year-Geology
27. B.Sc.-II Year-Mathematics
28. B.Sc.-II Year-Microbiology
29. B.Sc.-II year Agricultural Microbiology
30. B.Sc.-II Year-Physics
31. B.Sc.-II Year Statistics
32. B.Sc.-II Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**३३३**
दिनांक : १५.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science & Technology

B. O. S. In Chemistry

B.Sc. Second Year

Semester III & IV

CBCS

In force from – 2020

B. Sc. Second Year (Semester III&IV)

Semester	Course No.	Name of the Course	Instruction Hrs./ week	Total period	CA	ESE	Total Marks	Credits
III	CCIC III (Section A)	Organic & Inorganic Chemistry Paper – VI	03	45	10	40	50	2
	CCIC III (Section B)	Physical & Inorganic Chemistry Paper-VII	03	45	10	40	50	2
	CCICP-II (CCIC-III& IV) (section A)	Practical's based on P-VI & P-VIII Paper-X	04 04	Practical's 8 8	05 05	20 20	25 25	1 1
	SECIC I	SEC I (Any one Skill from Optional)	02	02	**25**	25	50	(02) *
IV	CCIC IV (Section A)	Organic & Inorganic Chemistry Paper – VIII	03	45	10	40	50	2
	CCIC IV (Section B)	Physical & Inorganic Chemistry Paper-IX	03	45	10	40	50	2
	CCICP-III (CCIC-III&IV), (section B)	Practical's based on P-VII & P-IX Paper-XI	04 04	Practical's 08 08	05 05	20 20	25 25	1 1
	SECICII	SEC I (Any one Skill from Optional)	02	02	25	25	50	(02) *
							Total credits semester III and IV:	**12(04) ***

Note:

ESE of CCICP II , CCICPE III & SECIC I, SCCIC II should be evaluated annually.

B. Sc. Second Year: Semester-III
Paper-VI, (CCC-III, Section A)
Organic & Inorganic Chemistry

Credits: 02 **Periods: 45**

Part-I (Organic Chemistry)

Unit: I
Name Reaction of Aldehydes and Ketones (With Mechanism): **12P**

[A] Condensation Reactions.
1. Aldol Condensation Reaction.
2. Benzoin Condensation Reaction.
3. Knoevenagel Reaction.
4. Mannich Reaction.
5. Perkin Reaction.
6. Reformatsky Reaction.

[B] Reduction Reactions.
1. Clemmensen Reduction Reaction.
2. Meerwein-Pondorf-Verley reduction reaction.
3. Reduction with $LiAlH_4$.

[C] Oxidation Reactions.
1. Baeyer- Villiger Oxidation Reaction.
2. Oppenauer oxidation.

Unit: II
Aromatic Carboxylic and Sulphonic Acids. **06P**
1. Introduction and Classification of Aromatic Carboxylic Acids.
2. Synthesis and Chemical Reactions of Following Acids.

[A] Benzoic Acid.
1. Preparations From: (a) Phenyl Cyanide, (b) Toluene.
2. Reactions of Benzoic Acids**:** a) Benzoyl halide formation b) Reduction. C) Nitration.

[B] Anthranilic Acid:
1. Preparations From: (a) Phthalimide, b) o-Nitrotoluene.
2. Reactions of Anthranilic Acids: a) Action of heat, b) Nitrous Acid, c) Action of acetic anhydride / acetyl chloride.

[C] Salicylic Acid:
1. Preparations From: (a) Kolbe's reaction. (b) Reimer-Tiemann reaction.
2. Reactions of Salicylic Acids: a) Bromination, b) Nitration, c) Decarboxylation, d) Reaction with Zn-dust.

[D] Phthalic Acid
1. Preparations From: (a) o-Xylene. (b) Naphthalene.
2. Reactions of Phthalic Acids: a) Action of heat b) Action of $PC1_5$ C) Action of ethanol.

[E] Benzene Sulphonic Acid.
1. Introduction.
2. Preparation of benzene sulphonic acid from benzene with mechanism.

3. Chemical Reactions of benzene sulphonic acid: a) Salt formation b) Formation of sulphonyl chloride, c) Formation of sulphonic ester and amide.
4. Replacement of sulphonic group by: a) Hydroxyl group. b) Cyano group, c) Hydrogen atom d) NH_2 –group.

Unit: III
[A] Introduction to Organometallic Compounds. 03P

1. Organomagnesium Compounds:
1. Preparation of Methyl Magnesium Bromide (CH_3MgBr).
2. Synthetic Applications: Ethanal, 2-Propanone, Ethanoic acid, Methanamine, Acetonitrile, Ethyl ethanoate.

2. Organolithium Compounds:
1. Preparation of Methyl Lithium (CH_3Li) from Methyl Iodide.
2. Synthetic applications: Ethanol, 1-Propanol, 2-Propanol, 2-Methyl-2-Propanol.

3. Organozinc Compounds:
1. Preparation of Diethyl Zinc [$(C_2H_5)_2Zn$] from ethyl iodide.
2. Synthetic applications: Ethane, 2-Butanol, Ethyl methyl ketone, Diethyl mercury.

[B] Organic Synthesis via Enolates: 04P
1. Introduction, Acidity of alpha hydrogen.
2. Synthesis of Ethyl Acetoacetate. [Claisen Condensation Reaction with Mechanism]
3. Ketol-Enol Tautomerism of ethyl acetoacetate.
4. Synthetic Applications of Ethyl Acetoacetate: a) Synthesis of alkyl ethyl acetoacetate by alkylation, b) Synthesis of 2-Butanone, c) Synthesis of Acetyl acetone, d) Synthesis of Propanoic acid, e) Synthesis of Succinic acid.

Unit: IV
Oils, Fats, Soaps and Detergents: 05P
Introduction, Chemical nature, General physical properties and chemical properties.

A] Oils and Fats:
a) Hydrolysis
b) Hydrogenation
c) Hydrogenolysis
d) trans-Esterification
e) Rancidity and autoxidation
f) Analysis of Fats and Oils i) Saponification value, ii) Iodine value

B] Soaps
1. Introduction,
2. Manufacture of soaps by i) Kettles process, ii) Hydrolyser process,
3. Cleansing action of soap.

C] Synthetic Detergents.
1. Introduction,
2. Synthetic detergent classification: i) Anionic, ii) Cationic, iii) Non-ionic.
3. Synthetic detergent versus soaps, Soft versus Hard detergents.

Part-II (Inorganic Chemistry)

Unit:-V

[A] Theory of Qualitative Analysis: 09P

a) Introduction: Definition of qualitative analysis, macro, micro and semimicro qualitative analysis, radicals, acidic and basic radicals.

b) Role of sodium carbonate extract in qualitative analysis.

c) Interfering radicals. Removal of interfering radicals such as oxalate, borate, fluoride and phosphate.

d) Use of solubility product, common ion effect and complex ion formation in the analysis of basic radicals: i) Separation of IIA and IIB, ii) Separation of II and IIIB, iii) Separation of IIIA and IIIB, iv) Separation of Zn^{++} and Mn^{++}, v) Separation of Co^{++} and Ni^{++} vi) Separation of Fe^{+++} and Al^{+++}, vii) Separation of Cu^{++} and Cd^{++}.

e) Use of organic reagents in qualitative analysis: i) 8-Hydroxy quinoline for aluminium, ii) α-Benzoinoxime for copper, iii) Dimethylglyoxime for Nickel, iv) 1,10-Phenonthroline for Iron, v) α-Nitroso-β-naphthol for cobalt.

[B] Non-aqueous Solvents: 06P

a) Introduction

b) Classification of Solvents.

c) Water as a universal solvent

d) Physical properties of solvent: Dipole moment, Dielectric Constant, Trouton's Constant, Viscosity. Melting Point & Boiling Point.

e) Reactions in liquid ammonia as solvent : Auto ionization, Acid-Base, Ammonolysis, Precipitation and ammonation.

f) Reactions in liquid SO_2: Autoionization, Acid-Base, Solvolysis, Precipitation and Solvation.

Reference books:

1. Organic chemistry by Morrison and Boyd, Print ice hall.
2. Organic chemistry by L.G. Wade. Print ice hall.
3. Organic chemistry Vol. I, II, III by S. M. Mukharji, S. P. Sing and R. P. Kapoor
4. Fundamental of organic chemistr y b y Solomon, John willey
5. A Text book of organic chemistry by Bahl and Bahl.
6. A Text book of organic chemistry by P. L. Soni.
7. A Text book of organic chemistry by Tewari Mehrotra.
8. Stereochemistry by P. S. Kalsi.
9. Organic chemistry by I. L. Finar.
10. Principles of Inorganic Chemistry by Puri, Sharma and Kaliya.
11. Advanced inorganic chemistry by Gurudeep Raj and ChatwalAnand.
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14. Nuclear Chemistry by Arnikar.
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16. Vogel's Qualitative Inorganic Analysis (Seventh Eddition),
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20. Inorganic Chemistry by A. G. Sharp.
21. Inorganic Chemistry by G. L. Miessler and D. A. Tarr.
22. Chemistry for degree students by Dr. R.L. Madan, (S. Chand).
23. Modern Organic Chemistry by M. K. Jain and S. C. Sharma.

Objectives:

- Students are acquainted with various name reactions and their mechanism on aldehydes and ketones.
- Students are familiar with the synthesis and chemical transformations of aromatic carboxylic and sulphonic acids.
- Student develops the primary knowledge about organometallic compounds and their applications.
- Students understand the importance of ethyl acetoacetate an active methylene compound, its synthesis and applications.
- Students are recognizable with oils, fats, soaps and detergents used in day today life.
- Students known about the qualitative analysis of metals and their related salts.
- Students recognized the importance of solvents in chemical reactions.

Outcomes:

- Learn the mechanism of name reactions.
- Know the Synthesis, and Reactions of Aromatic Carboxylic and Sulphonic acids.
- Know the Synthesis, and Reactions of Organometallic compounds.
- Learn the synthesis, mechanism, applications of active methylene compounds.
- Gathering basic knowledge of Oils, Fats, Soaps and Detergents.
- Understand the basic principle and application of Qualitative Analysis.
- Know the Classification, Properties of Non- aqueous solvents.

B. Sc. Second Year: Semester-III
Paper-VII, (CCC III, Section B)
Physical & Inorganic Chemistry

Credits:02 **Periods: 45**

Part I (Physical Chemistry)

Unit :- I **10.**
Atomic Structure and Wave Mechanics

1.1 Planck's quantum theory.
1.2 Photoelectric effect, explanation on the basis of quantum theory.
1.3 Compton Effect: Statement, explanation.
1.4 de-Broglie hypothesis; derivation of de-Broglie equation, explanation.
1.5 Davisson-Germer experiment.
1.6 Heisenberg's uncertainty principle: Statement, explanation.
1.7 Schrodinger wave equation; Derivation in time independent form and Laplacian operator form, Physical significance of wave function (Ψ) and (Ψ2).
1.8 Numerical on de-Broglie equation.

Unit :- II **05**
Thermodynamics:

2.1 Introduction to First law of thermodynamics.
2.2 Joule's law. Joule-Thomson effect.
2.3 Need for second law of thermodynamics.
2.4 Different statements of second law ofthermodynamics.
2.5Third law of thermodynamics, Nernst heat theorem.

Unit:- III
Concept-of-entropy: **06**

3.1 Introduction, Definition, Mathematical Expression, Unit.Entropy as a state function.
3.2 Entropy change in Physical transformations:
(i) Fusion of a solid. (ii) Vaporization of aliquid. (iii) Transition from one crystalline form to another.
3.3 Entropy changes for an ideal gas as a function of V and T and as a function of P and T.
3.4 Physical significance of entropy.
3.5 Numerical on entropy change in physical transformations.

Unit:- IV **09**
Phase equilibrium

4.1 Phase rule, Statement and explanation of the terms-phase, component and degree of freedom.
4.2 Phase equilibria of one component system**:** Water system, Sulphursystem.
4.3 Phase equilibria of two component system: Pb-Ag system, significance of lead – silver system.
4.4Solubility of partially miscible liquids: Critical solution temperature (CST) OR Consolute temperature, upper critical solution temperature (UCST).Lowers critical solution temperature(LCST).
4.5 Phenol water system. Effect of impurities on critical solution temperature.

Part II (Inorganic Chemistry)

Unit:- V

[A] Nuclear Chemistry: . . 10

a) Introduction, composition of nucleus and nuclear size.
b) Classification of nuclides: Isotopes, isobars, isotones, isotones and isomers.
c) Nuclear Stability: Odd and even number of protons and neutrons, N/Z ratio, magic number, packing fractions (Numerical), mass defect (Numerical), nuclear binding energy (Numerical) and mean nuclear binding energy (Numerical).
d) Release of nuclear energy:
i) Nuclear fission reaction, nuclear fuels and plutonium bomb.
ii) Nuclear fusion reaction, the energy of sun, hydrogen bomb.
e) Definition of radioactivity, characteristics of α, β, and γ particles, group displacement law.
f) Application of radioisotopes in medicine, agriculture, industry, and carbon dating.

[B] Theory of Gravimetric Analysis. . 05

a) Introduction , definition of gravimetric analysis.
b) Steps involved in gravimetric analysis
c) Precipitation, Conditions for Precipitation
d) Types of precipitates.
e) Factors affecting precipitation such as temperature and pH, Solubility and Solubility Product.
f) Different Steps involved in gravimetric analysis:
i) Precipitation, ii) Digestion , iii) Filtration & Washing, iv) Drying,v) Ignition &Inceneration, vi) Weighing.

Reference Books:

1. Physical Chemistry by G. M. Barrow (Tata Mc-Graw Hill publishing Co., Ltd.)
2. Elements of Physical Chemistry by S. Glasstone& D. Lewis (D.van nostrand co. Inc.)
3. Physical Chemistry by W. J. Moore (Orient Longman).
4. Principles of Physical Chemistry by S. H. Maron and C. F. Prutton. (Oxford & IBH Publishing Co.)
5. University General Chemistry by C. N. R. Rao (Mc-Millan).
6. Elements of Physical Chemistry by P. W. Atkins. (Oxford University Press).
7. Physical Chemistry by R. A. Alberty (Wiley Eastern Ltd.).
8. Physical Chemistry through problems by S. K. Dogra, D. Dogra(Wiley Eastern Ltd)
9. Principles of Physical Chemistry by Puri, Sharma and Pathania (Vishal Publication Jallandher,Delhi)
10. Physical Chemistry by A. J. Mee. ELBS & Heinemann Educational Books Ltd.
11. Essentials of Physical Chemistry by ArunBhal, B. S. Bahl and G. D. Tuli. (S. Chand)
12. Chemical Kinetics by K. J. Laidler (Tata Mc-Graw Hill Publishing Co. Ltd).
13. Text Book of Physical Chemistry by Soni-Dharmarha.
14. A Text Book Physical Chemistry by S. Glasstone, (Mac Millan.)
15. Advanced Physical Chemistry by D.N.Bajpai. (S.Chand)
16. Advanced Physical Chemistry by Gurdeep Raj.(Goel publishing house, Meerut).
17. Principles of Inorganic Chemistry by Puri, Sharma and Kaliya.
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OBJECTIVES:

- Aim of this course to offer a broad view on the fundamental Atomic structure and wave. Mechanics to understand the principles, hypothesis, derivations, expressions and laws.
- The course introduces the students to the concept of entropy and laws of thermodynamics.
- This course gives the knowledge about atomic nuclear structure & its energy.
- The course introduced the separation method of gravimetric analysis.

OUTCOMES:

After completion of these courses students should be able to,

- Write an expression of Davisson-Germer experiment.
- Derive Schrondinger wave equation.
- Understand De-Broglie's hypothesis and uncertainty principle.
- Solve the numerical problems based on De-Broglie.
- Understand concept of entropy.
- Understand statements of first, second and third law of thermodynamics.
- Know the meaning of phase, component and degree of freedom.
- Know the nuclear structure & different energy of nuclear.
- Understand the different steps & procedure in the gravimetric separation method.

B. Sc. Second Year: Semester- III &IV
CCCP II (CCC III & IV, Section A)
Practical based on P-VI & P-VIII
Laboratory Course- Paper-X

Credits: 02 **Periods: 120**

Note: At least sixteen experiments should be taken.

Part-I (Organic Chemistry)

1. Only demonstration

i) Determination of Rf values of O, M and P-nitro aniline.
ii) Separation of benzene and water by distillation method.

2. Qualitative analysis: Identification of following organic compounds.
(Two from each of the following)
a) Acids: Benzoic acid, Phthalic acid, Salicylic acid, Cinnamic acid, o-chloro benzoic acid.
b) Base: Aniline, P-nitroaniline, m-nitroaniline , resorcinol, P-toludiene.
c) Phenols: Phenol, α-naphthol, β-naphthol, p-cresol, m-nitrophenol.
d) Neutral: Naphthalene, Anthracene, Acetanilide, m-dinitrobenzene, Nitrobenzene.

3. **Quantitative analysis: (estimation) any four.**
a) Estimation of glycine by Sorenson's method.
b) Estimation of phenol by bromination method.
C) Estimation of glucose by iodination method.
d) Estimation of unsaturation (cinnamic acid).
e) Estimation of saponification value of an oil.
f) Estimation of iodine value of an oil.
g) Estimation of vitamin-C
h) Estimation of formaldehyde.

Part-II (Inorganic Chemistry)

1) Determine volumetrically the amounts of sodium carbonate and sodium hydroxide present together in the given solution provided 0.1 N HCl solution
2) Determine the percentage of $CaCO_3$ in the chalk sample, provided 1 N HCl and 0.1N NaOH
3) Estimate the strength of the given sample of $KMnO_4$ Solution in g/lit. Prepare a standard solution of N/10 Mohr's salt or N/10 Sodium Oxalate solution
4) Estimate volumetrically the strength of Ferrous and ferric ion in the given solution provided N/10 $KMnO_4$ Solution
5) Determine the strength in g/lit of each of HCl and HNO_3 present together in the given solution. Provided N/10 NaOH and N/20 $AgNO_3$
6) Determination of Nickel using murexide as an indicator (Direct method)
7) Prepare standard solution of Zn ion standardize the give EDTA solution and estimate the amount of unknown Zn ion concentration
8) To determine the total, permanent and temporary hardness of water by complexometric method using EDTA.

Objectives:

- To trained the thin layer chromatography and distillation techniques.
- Become skilled for qualitative analysis of organic compounds.
- Taught to do the quantitative analysis by estimations of organic molecules.
- Gain the practical knowledge for volumetric analysis.

Outcomes:

- Learn basics of thin layer chromatography and distillation.
- Learn fundamentals of organic qualitative analysis.
- Learn about organic estimations.
- Basics of volumetric analysis.

B. Sc. Second Year: Semester-IV

Paper-VIII, (CCC IV, Section A)
Organic & Inorganic Chemistry

Credits: 02 **Periods: 45**

Part-I (Organic Chemistry)

Unit:-I
Stereochemistry: **10P**

1. Introduction
2. Concept and Types of isomerism (a) Structural isomerism, (b) Stereoisomerism.
3. Types of Structural isomerism.
4. Types of Stereoisomerism.
5. Optical Isomerism**:** a) Concept of Asymmetric Carbon atom, Chiral centre, b) Optical Activity (Plane polarized light, dextro and laevo forms, racemic mixture), c) Element of Symmetry [Plane, Centre, and Axis], d) Concept of Enantiomers, e) Concept of Diastereomers, f) Racemic Modification, g) Resolution, h) Relative specification of configuration (D and L Notations), i) Absolute specification of configuration (R and S notations) [Examples: i) Lactic acid, ii) Glyceraldehyde, iii) Bromo chloro iodomethane, iv) 2-Chlorobutane, v) 1-Bromo-1-Chloro ethanol, vi) 1-Chloro ethylamine, vii) 1-Chloro-1-propanol, viii) Glyceric acid, ix) α-Deutero ethyl bromide, x) 1-Phenyl ethanol, xi) Mendelic acid, xii) 1-Phenyl ethylchloride, xiii) Lactonitrile, xiv) α-Bromo propanoic acid, xv) 2-Iodo octane and xvi) Cinnamic acid dibromide].
6. Geometrical Isomerism (Cis-trans isomerism), E and Z System of nomenclature [Examples: i) Meleic acid, ii) 1-Chloro-2-bromo-2-iodoethene, iii) 3-Hexene, iv) 1,2-Diphenylethene, v) 2-Pentene, vi) 1-Deuterium hexane, vii) 3-Methyl-3-haxene, viii) Phenyl oxime, ix) 1-Bromo-1,2-dichloroethene, x) 2-Chloro-3-methyl-2-pentenoic acid, xi) Cinnamic acid and xii) Crotonic acid.

Unit:-II
Carbohydrates: **08P**

1. Introduction, Definition, Classification and Nomenclature.
2. Reactions of Monosaccharide (Glucose): a) Addition reactions, b) Ether formation, c) Reduction of glucose, d) Oxidation of glucose, e) Osazone formation with mechanism.
4. Open and cyclic structure of glucose.
5. Mutarotation with Mechanism.
6. Epimerization.
7. Inter-conversions: a) Glucose to Fructose, b) Fructose to Glucose, c) Glucose to Mannose,
d) Glucose to Arabinose (Ruff Degradation), e) Arabinose to Glucose (Killiani synthesis).
8. Manufacturing of sucrose (sugar) from sugar cane.

Unit:-III
Nitrogen Containing Organic Compounds: **08P**

A] Aromatic Nitro Compounds:

1. Introduction, Nomenclature,
2. Preparation of Nitrobenzene from benzene
3. Physical and Chemical properties of Nitrobenzene.
4. Electrophilic substitution reactions.

5. Reductions: a) in acidic medium, b) In neutral medium, c) In alkaline medium, d) Electrolytic reduction.

B] Aromatic amines:

1. Introduction, Classification, Nomenclature,
2. Methods of preparations of aniline from i) chlorobenzene, ii) phenol, iii), nitrobenzene, iv) from phthalimide
3. Chemical properties: i) Diazotization reaction, ii) Action of carbon disulphide, iii) Action of benzoyl chloride, iv) Formation of Schiff's base, v) Carbylamine reaction, vi) Formation of p-nitroacetanilide
4. Effect of substituent ($-NO_2$, $-OCH_3$, $-CH_3$) on the basicity of aniline.

C] Diazomethane:

1. Introduction.
2. Methods of Preparation from: i) N-nitroso-N-methylurethane, ii) Nitrous oxide and methyl lithium.
3. Reactions of Diazomethane: i) Action of heat, ii) Reaction with mineral acid, iii) Reaction with phenol, iv) Reaction with ethanol and ethanamine, v) Ring expansion (cyclopentanone to cyclohexanone).

D] Urea:

1. Synthesis of urea by a) Wohlers methods and b) From CO_2.
2. Reactions: a) Action of heat, b) Action of nitrous acid, c) Hydrolysis, d) Action of thionyl chloride, e) Action of formaldehyde, f) Action of hydrazine, g) Action of acetyl chloride, h) Salt formation.

Unit:-IV
Applications of Reagents in Organic Synthesis: 04P

A] Osmium Tetraoxide [OsO_4]:
1. Introduction, Preparation.
2. Reactions: a) In the formation of Cis-l,2-diol, b) Acralaldehyde to glyceraldehyde, c) Cis- hydroxylation of maleic acid, d) 9, 10-dihydroxylation of phenanthrene.

B] Ozone [O_3]:
1. Preparation.
2. Reactions: a) Synthesis of aldehydes and ketones, b) Synthesis of dialdehydes and hydroxyl aldehydes, c) In degradation of alcohols.

C] Selenium Dioxide.[SeO_2]:
1. Preparation.
2. Reactions: a) Oxidation of reactive methylene group into Carbonyl group, b) In dehydrogenation reactions, c) allylic hydroxylation and oxidation.

D] Boron Trifluoride [BF_3]

1. Preparation.
2. Reactions, in the formation of: a) acids, b) esters c) diketones, d) Nitration, e) Sulphonation, f) Rearrangement reaction.

Part II (Inorganic Chemistry)

Unit:-V

[A] Chemistry of d-Block Elements: 07P

a) Introduction of d-block Elements
b) General Characteristics of d-Block Elements.
c) Electronic Configuration of First Transition Series Elements.
d) Properties of First Transition Elements: Size, Colour, Metallic, Magnetic, Catalytic properties and complex formation
e) Electronic Configuration of Second & Third Transition Series Elements.
f) Comparison of Second & Third Transition Series Elements with first transition series elements.

[B] Chemistry of f-Block Elements: 08P

1. Lanthanides:

a) Electronic Configuration.
b) Lanthanide Contraction, Consequences of Lanthanide Contraction and cause of lanthanide contraction.
c) Magnetic Properties of Lanthanides.
d) Variation in properties of lanthanides.
e) Comparison of Characteristics of d & f-block elements.
f) Extraction of Lanthanides by ion exchange method.
g) Applications of Lanthanides.

2. Actinides:

a) Electronic Configuration.
b) Properties of Actinides.
c) Comparison with Lanthanides.
d) Extraction of Uranium from Pitchblend.
e) Physical & Chemical Properties of Uranium.

Reference Books:

1. Organic Chemistry by Morrison and Boyd, Print ice hall.
2. Organic Chemistry by L.G. Wade. Print ice hall.
3. Organic Chemistry Vol. I, II, III by S. M. Mukharji, S. P. Sing and R. P. Kapoor
4. Fundamental of organic chemistry by Solomon, John willey
5. A Text book of organic chemistry by Bahl and Bahl.
6. A Text book of organic chemistry by P. L. Soni.
7. Synthetic Organic Chemistry, by: G. R. Chatwal.
8. Organic Chemistry, Reactions, Rearrangements and Reagents, by: O. P. Agarwal
9. Reaction, Rearrangement and Reagents, by: S. N. Sanyal
10. Organic Chemistry 05th edition, by: A. K. Pine.
11. Organic Chemistry, by: Solomons Fryhle
12. A Text book of organic chemistry by Tewari Mehrotra.
13. Stereochemistr y by P. S. Kalsi. [07th edition]
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17. Advanced inorganic chemistry vol. II by Satyaprakash, Tuli, Basu and Madan.
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26. Chemistry for degree students [B. Sc. II], by Dr. R.L. Madan, (S. Chand).
27. Modern Organic Chemistry by M. K. Jain and S. C. Sharma.

Objectives:

- To gain knowledge of the stereochemistry with different aspects like Structural, Conformational, Optical and Geometrical Isomerism.
- To study the basic concepts about the carbohydrates especially with glucose.
- To known the importance of Nitrogen Containing Organic Compounds.
- To understand the synthesis and application of Reagents in Organic Synthesis.
- To study the Chemistry of d-Block Elements.
- To study the Chemistry of f-Block Elements.

Outcomes:

- Learn the stereoisomerism of Chiral compounds.
- Know the Classification, and Reactions of carbohydrates.
- Know the Synthesis, and Reactions of Nitrogen Compounds.
- Gathering **a**pplications of Reagents in Organic Synthesis.
- Understand the Characteristics of d-Block Elements.
- Know the Characteristics of d-Block Elements.

B. Sc. Second Year: Semester-IV
Paper-IX, (CCC IV, SectionB)
Physical & Inorganic Chemistry

Credits:02 **Periods: 45**

Part I (Physical Chemistry)

Unit:-I Chemical-Kinetics: - 10

1.1 Introduction: Rate of reaction, Definition and units of rate constant, Factors affecting rate of reaction, Order and Molecularity of reaction.
1.2 Zero order reaction: Rate expression and Characteristics.
1.3 First order reaction: Rate expression and Characteristics.
1.4 Pseudounimolecular reactions.
1.5 Second order reaction: Derivation of rate constant for equal and unequal concentrations of the reactants.
1.6 Characteristics of second order reaction.
1.7 Methods of determination of order of a reaction.
1.8 Arrhenius equation.
1.9 Numericals on half-life method.

Unit:-II Electrochemistry:- 06

2.1 Introduction, Types of conductors: electronic and electrolytic.
2.2 Conductance of electrolytes: Conductance, Specificresistance, Specific conductance, Equivalent conductance, Molecular conductance and their units.
2.3 Variation of specific and equivalent conductance with dilution, Equivalent conductance atinfinite dilution. Effect of temperature on conductance.
2.4 Strong and weak electrolyte. Arrhenius theory of electrolytic dissociation and its limitations.
2.5 Debye-Huckel theory of strong electrolytes. Relaxation effect and electrophoretic effect,
2.6 Debye-Huckel Onsager's equation and its verification.
2.7 Numericals on Specific conductance, Equivalent conductance and cell constant.

Unit:-III Electrochemistry:-II 06

3.1 Kohlrausch's law, Applications of Kohlrausch's law:
i) Determination of equivalent conductance at infinite dilution of weak electrolytes.
ii) Determination of degree of dissociation.
iii) Determination of solubility of sparingly soluble salts.
iv) Determination of absolute ionic mobility.
v) Determination of ionic product of water.
3.2 Conductometric titrations:
(i) Strong acid against strong base. (ii) Strong acid against weak base (iii) Weak acid against strong base. (iv)weak acid against weak base(v) Precipitation titration
3.3 Advantages of conductometric titrations.

Unit:-IV Photochemistry:- 08

4.1 Introduction to photochemistry, types of chemical reactions, difference between thermal and photochemical reactions.
4.2 Lambert-Beer Law: Light absorption by solution, molar extinction coefficient.
4.3 Laws of photochemistry: Grothus-Drapper law, Stark-Einstein law of photochemical equivalence.
4.4 Quantum yield, experimental determination of quantum yield. High and low quantum yield reactions. Reasons for high and low quantum yield.
4.5 Jablonski diagram with qualitative description ofphotochemical process, Fluorescence, phosphorescence, Photosensitized reactions. Chemiluminescence.
4.6 Numericals on quantum yield.

Part II (Inorganic Chemistry)

Unit:-V

[A] Chemistry of Non-transition elements **05**

a) Silicates: Definition, Basic Unit of silicate and classification on the basis of basic unit and their characteristics.

b) Zeolite: Definition, preparation, classification and applications. Ultramarine.

c) Carbide: Definition, classification, preparation, properties and structure of ionic or salt like carbides (CaC2), Metallic carbide (TiC) and covalent carbides (SiC).

d) Fullerene: Preparation, properties, structure and applications.

[B] Chemistry of Halogen compounds **10**

a) **Inter-halogen compounds:**

i)Definition, preparation and structure of XY, XY3, XY5, and XY7 types of inter-halogen compounds.

ii) Pseudo-halogen: Definition, preparation and properties.

b) **Polyhalides:** definition, preparation, properties & structure of ICl2-, & ICl^{4-}

c) **Oxides of halogens:** Preparation, structure & uses of F2O, Cl2O, Cl2O7, & I2O5.

d) **Oxyacids of halogens:** Introduction, oxidation state, structure strength and stability.

Reference Books:

1. Physical Chemistry by G. M. Barrow (Tata Mc-Graw Hill publishing Co., Ltd.)
2. Elements of Physical Chemistry by S. Glasstone& D. Lewis (D.van nostrand co. Inc.)
3. Physical Chemistry by W. J. Moore (Orient Longman).
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16. Principles of Inorganic Chemistry by Puri, Sharma and Kaliya.
17. Advanced inorganic chemistry by Gurudeep Raj and ChatwalAnand.
18. Advanced inorganic chemistry vol. II by Satyaprakash, Tuli, Basu and Madan.
19. Inorganic Chemistry by Huheey, Keiter and Keiter.
20. Concise Inorganic Chemistry by J. D. Lee.
21 A text book of Practical Chemistry for B. Sc. By V. V. Nadkarny, A. N. Kothare and Y. V. Lawande.
22. Advanced practical inorganic Chemistry by O. P. Agarwal
23. Basic Inorganic Chemistry by F. A. Cotton, G. Wilkinson and P. L. Gaus.
24. Inorganic Chemistry by A. G. Sharp.
25. Inorganic Chemistry by G. L. Miessler and D. A. Tarr.
26. Chemistry for degree students by Dr. R.L. Madan, (S. Chand)
27. Principles of Inorganic Chemistry by Puri, Sharma and Kaliya.
28. Advanced inorganic chemistry by Gurudeep Raj and ChatwalAnand.
29. Chemistry for degree students by Dr. R.L. Madan, (S. Chand)

OBJECTIVES:

- The course also provides adequate knowledge on the basis of concept of photochemistry.
- The course also creates awareness among the students about rate of reactions and what factors affect the rate of chemical reaction.
- The courses provide adequate knowledge about electrolytes, conductance, statements, laws, conductometric titrations and its advantages.
- The course also creates awareness among the students about compounds of Non Transition elements.
- The course also creates awareness among the students about the compounds of inter halogen.

OUTCOMES:

After completion of these courses students should be able to,

- Know the rate constant and factors affecting rate of reactions.
- Write an expression for rate constant (K) for first order, second order reaction.
- Know the terms cell constant, specific conductivity, equivalent conductivity and molar conductivity.
- Know the applications of Kohlrausch's law.
- Compare between thermal and photochemical reactions.
- Discuss different types of photochemical process.
- Know the preparation, properties, structure & application of different compounds.
- Discuss different inter halogen compounds by preparation, properties, structure and uses.

B. Sc. Second Year: Semester- III &IV
CCCP III (CCC III & IV, Section B)
Practical based on P-VII & P-IX
Laboratory Course- Paper-XI

Credits:02 **periods: 120**

Note: At least sixteen experiments should be taken.

Part I (Physical Chemistry)

Instrumental :

1. Determine the normality and strength of strong acid (HCl / H2SO4 / HNO3) conductometrically using standard solution of strong base (NaOH / KOH).
2. Determine the normality and strength of weak acid (CH3COOH / HCOOH) conductometrically using standard solution of strong base (NaOH / KOH).
3. To determine the solubility of a sparingly soluble salts (BaSO4 / PbSO4 / AgCl) conductometrically at room temperature.
4. Determine the normality and strength of strong acid (HCl / H2SO4 / HNO3) potentiometrically using standard solution of strong base (NaOH / KOH).
5. Determine redox potential of Fe^{3+}/ Fe2+ / or Sn4+/Sn3+ or Ce4+ / Ce3+ system by titrating it with standard K2Cr2 O7 / KMnO4 potentiometrically
6. Verification of Lamberts-Beer's law using KMnO4 / NiSO4 / K2Cr2 O7 / CuSO4 Colorimetrically and determine concentration of unknown solution.
7. Determine the concentration of Cu^{++}ion in given solution, titrating with EDTA by colorimetric measurements.
8. To determine pKa value of the given organic acid by pH measurements.

Non-Instrumental

1. To study the effect of addition of electrolyte (KCl / NaCl) on solubility of weak organic acid at room temperature.
2. Determine energy of activation of reaction between KI and K2S2O8 .
3. Determine the parachor of p-dichloro benzene by stalgmometer method.
4. To determine the composition of the given mixture consisting of two miscible liquids, A & B by viscosity measurement.
5. Determine partition coefficient of iodine between carbon tetrachloride and water.
6. Determine the solubility of benzoic acid in water at different temperatures and hence its heat of solution.
7. To study the effect of solute (NaCl / Succinic acid) on the CST of phenol- water system and hence, determine amount of solute in given sample of phenol – water composition.
8. To find out the enthalpy of neutralization of weak acid/weak base against strong base/strong acid And determine the enthalpy of ionization of weak acid/ weak base.
9. To study the kinetics of dissolution of magnesium metal in dil.HCl
10. To study the kinetics of decomposition of sodium thiosulphate by a mineral acid

Part II (Inorganic Chemistry)

Separation of binary mixtures and estimation of any one by volumetric method:

1. Cu^{++} + Zn^{++}
2. Ba^{++} + Ca^{++}
3. Mn^{++} + Zn^{++}
4. Fe^{++} + Al^{+++}

Reference books:

1 Text book on practical Chemistry, by K. S. Mukherjee
2 Laboratory Manual of Organic chemistry Raj. K. Bansal.
3 Advanced practical organic chemistry, by: Vishnoi.
4 Experimental organic chemistry by: Sing.
5 Experimental Physical Chemistry by A. Findlay.Longman.
6 Advanced Practical Physical Chemistry by J.B. Yadav. (Goel Publishing house, Meerut).26
7 Experiments in Physical Chemistry by R. C. Das and B. Behra. Tata Mc Graw Hill.
8 Advanced experimental Chemistry Vol. I. Physical by J.N. Gurtu and R. Kapoor. S.Chand& Co.
9 Experiments in Physical Chemistry by J. C. Ghosh, BharatiBhavan.
10 Practical book of Physical Chemistry – by Nadkarni Kothari &Lawande. Bombay Popular Prakashan.
12 Systematic Experimental Physical Chemistry–by S.W. Rajbhoj,Chondhekar. Anjali Publication.
13 Practical Physical Chemisty – by B. D. Khosala& V. C. Garg. R. Chand& Sons.
14 Experiments in Chemistry by D. V. Jagirdar.
15 Practical Chemistry, Physical – Inorganic – Organic and Viva – voce by BalwantRaiSatija. Allied Publishers Pvt. Ltd.
16 College Practical Chemistry by H. N. Patel, S. R. Jakali, H. P. Subhedar, Miss. S. P. Turakhia. Himalaya Publishing House, Mumbai.
17 College Practical Chemistry by Patel, Jakali, Mohandas, Israney, Turakhia. Himalaya Publishing Housing, Mumbai.
18 Experimental Physical Chemistry by A. Findlay.Longman.
19 Practical chemistry (ForB.Sc.I,II, III year) by O. P.Pandey, D.N. Bajpai, S. Giri, S. Chand& Co.
20 University practical chemistry by P. C. Kamboj ,Vishal publishing co.
21 Advanced Practical Inorganic Chemistry by Gurdeep Raj.(Goel Publishing house, Meerut).
22 Advanced Practical Organic Chemistry by Dr O. P.Agarwal. (Goel Publishing house, Meerut

OBJECTIVES:

- Aims of the laboratory course is to create awareness among the students to gain skills of measurement of physical properties like EMF, conductance, pH, optical density using instruments.
- Separation Groups in Qualitative Analysis.

Outcomes:

After completion of this course students should be able to,

- Calculate normality and strength of the solution using potentiometer and conductivity meter.
- Find pk_a value on pH meter.
- Verify Lamberts-Beer's law colorimetrically and determine unknown concentration of the solution.
- Determine energy of activation.
- Determine heat of solution.
- Study the effect of solute on CST of phenol-water system.
- Determine the enthalpy of ionization of weak acid / weak base.
- Determine partition coefficient.
- Separations of elements from each other & analysis by volumetric method.

Swami Ramanand Teerth Marathwada University Nanded

Choice Based Credit System (CBCS) Course Structure
B. Sc. second year (Semester- III)
Semester Pattern effective from June -2020
Chemistry

Skill Enhancement Course SECC-I (A)

Food Processing And Food Adulteration: 2 Credits

Unit I Food Processing: 15 periods

1.1) Introduction, common food processing techniques: mincing, macerating, cooking, baking, boiling blanching, double steaming, frying, roasting.

1.2) Food processing an Indian prospective: Policy initiatives, Opportunities, Indian food processing industry, Research methodology, Analysis methods.

Unit II Food Preservation: 20 periods

1.3) Basic principles of food preservation- drying, canning, pickling smoking packing.

1.4) Food preserving through Irradiation: Food irradiation, Radurization, Radicidation, Radappertization . Technologies : electron beam irradiation, Gamma radiation , x-ray radiation

1.5) Modern methods of food Preservation: Freeze drying, sodium benzoate , mechanism of food preservation, saccharin, saccharin and cancer.

1.6) Role preservatives in food processing : Phenylphenol, benzethonium chloride , calcium benzoate, sodium benzoate, calcium tartrate, dimethyl dicarbonate, ethylparaben, glycolic acid, hexamine.

Unit III Food adulteration: 10 periods

1.7) Detection of common food adulterants in : Spices, grains, oils, milk and milk products , food colors, tea , coffee.

Reference books

1) Food Preservation ---M.K.Singh (discovery publishing house Daryagang ,New delhi)
2) Food Science ----Shalini Pathak (Sonali Publications, Daryagang ,New delhi)
3) Food Processing --- M.K.Singh (discovery publishing house Daryagang ,New delhi)
4) Hand book of analysis and quality control for fruit and vegetable products : ----S.Ranganna II edition
5) Milk and milk products ---- S.Mahindra –APH Publishing house Daryagang ,New delhi
6) Food Microbiology -----W.C.Frazier/D.C.Westhoff –Tata mcgraw hill
7) Food Chemistry -----Shalini Saxena --Raga publication Daryagang ,New delhi
8) Rapid detection of food adulterants and contaminants ----Shyam Zha
9) Handbook of adulteration and safety --- Sumeet Malik

OR

Swami Ramanand Teerth Marathwada University Nanded

Choice Based Credit System (CBCS) Course Structure
B. Sc. second year (Semester- III)
Semester Pattern effective from June -2020
Chemistry

Skill Enhancement Course SECC-I (A)

Water Pollution

Unit I Pollution: 10 periods

Pollution: - Introduction, Definition, Sources & effect of water pollution. Control measures of water pollutions.

Unit II Analysis of water pollution:- Theory & Practically: 20 periods

Physical Parameters

a) Temperature b) Electrical Conductance

c) Total Suspended Solids d) Total dissolved Solids

e) Total Solids f) Oil & Greases.

Unit III Chemical Parameters: 10 periods

a) P^H b) Dissolve Oxygen

c) Chemical Oxygen demand d) Bio-Chemical Oxygen demand

e) Hardness f) Chloride

g) Sulphate

Unit IV Biological aspects. 05 periods

Reference books

1. Environmental Pollution -A.K. De
2. Environmental Pollution - Khitoliya R.K.
3. Water Pollution -Salpekar Aradhana
4. Introducation to Waste Water Treatment Process -Jindal M.
5. Water Pollution -Sharma B.K.
6. Environmental Chemistry -Sharma B.K
7. Environmental Chemistry -Bhagi Ajaykumar
8. Environmental Chemistry-Kaver H.
9. Environmental Chemistry-Banerji S.K.
10. Water Pollution - Kudesia V.P.

Swami Ramanand Teerth Marathwada University Nanded

Choice Based Credit System (CBCS) Course Structure
B. Sc. second year (Semester- IV)
Semester Pattern effective from June -2020
Chemistry

Skill Enhancement Course SECC-II (B)

PREPARATION OF SOLUTIONS AND ITS STANDARDISATION

Unit I. Introduction: 05 Periods

1.1 Solute, solvent, solution, types of solutions, Homogeneous solution, Heterogeneous solution.

1.2 Concentration of solution, dilute solution, standard solution.

Unit II. Ways of expressing the concentration of solutions and their preparation. 10 Periods

1.3 Percentage by mass (% w/W) Percentage by volume (% v/V)
Mole fraction (x) Molarity (M)
Molality (m) Normality (N)
Parts per million (Ppm) Parts per thousand (Ppt)

Unit III. Preparation of standard solutions 15 Periods

1.4 Preparation of any standard solutions from stock solution.

1.5 **Numerical**.

(a) Molarity, Molality, Normality, Mole fraction, ppm, ppt.

(b) Determination of concentration of mixing different concentrations and volume of same solution.

(c) Determination of compositions of mixture in terms of mole fraction.

Unit IV Standardisation of solutions 15 Periods

1.6 Standardisation of $KMnO_4$ solution. Standardistion of HCl solution.
Standardisation of NaOH solution. Standardisation of EDTA solution.
Standardisation of $K_2Cr_2O_7$ solution.

Reference books

1. Advanced practical of physical chemistry, Gurudeep Raj – Goel Publishing, House.
2. Advanced practical of inorganic chemistry Gurudeep Raj – Goel Publishing, House.
3. Systematic Experimantal physical chemistry. S.W. Rajbhoj, Dr. T.K. Chondhekar, Anjali Publication Aurangabad.
4. Essentials of physical chemistry, Arun Bahl, B.S. Bahl, G.D. Tuli(S.chand)
5. Practical chemistry by Dr. O.P. Pandey D.N. Bajpai, Dr. S. Giri (S.Chand)
6. Advanced practical physical chemistry, J.B. Yadav, Goel Publishing, House.
7. Advanced practical inorganic chemistry, O.P. Agrawal.
8. A Text book of practical chemistry for B.Sc, V.V. Nadkarny, A.N. Kothare and Y.V. Lawande.

OR

Swami Ramanand Teerth Marathwada University Nanded

Choice Based Credit System (CBCS) Course Structure
B. Sc. second year (Semester- IV)
Semester Pattern effective from June -2017
Chemistry

Skill Enhancement Course SECC-II (B)

ANALYTICAL METHODS AND CHROMATOGRAPHY

Unit I Introduction **05 Periods**

Types of analysis

Analytical methods

Analytical Instruments

Difference between Classical and analytical methods

Criteria for selecting an analytical methods

Organic reagents used in inorganic analysis

Safety in the analytical laboratory

Unit II. Instrumental methods: **20 Periods**

Conductimetry: Principle and applications

pH metry: Principle and applications

Potentiometry : Principle and applications.

Colorimetry / Spectrophotometry : Principle and applications.

Refractometry : Principle and applications.

Unit III Introduction and applications of Chromatographic techniques: **20 Periods**

Paper Chromatography

Thin layer Chromatography (TLC)

Column Chromatography

REFERENCE BOOKS

1. Analytical Chemistry; by H. Kaur, Pragati prakashan, Meerut

2. Modern Analytical Chemistry by Alka L.Gupta, Pragati prakashan, Meerut

3. A.I.Vogel, A Text Book of Quantitative Inorganic Analysis, including elementary instrumental analysis, 2nd edition, London, Longman (1972)

4. S.M.Khopkar, Basic concepts of Analytical Chemistry

5. S.A.Skoog and D.W.West, Fundamental of Analytical Chemistry

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR
ACADEMIC (1-BOARD OF STUDIES) SECTION
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Fax : (02462) 229574
Website: www.srtmun.ac.in
E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ०८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.११/४४–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

1. Agricultural Microbiology
2. Agrochemicals & Fertilizers
3. Analytical Chemistry
4. B.C.A.
5. B.Voc. (Food Processing, Preservation and Storage)
6. B.Voc. (Web Printing Technology)
7. Biochemistry
8. Bioinformatics
9. Biophysics
10. Biotechnology (Vocational)
11. Biotechonology
12. Botany
13. Chemistry
14. Computer Application (Optional)
15. Computer Science (Optional)
16. Computer Science
17. Dairy Science
18. Dyes and Drugs
19. Electronics
20. Environmental Science
21. Fishery Science
22. Food Science
23. Geology
24. Horticulture
25. Industrial Chemistry
26. Information Technology (Optional)
27. Mathematics
28. Microbiology
29. Network Technology
30. Physics
31. Software Engineering
32. Statistics
33. Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/२९२
दिनांक : ०३.०७.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University, Nanded

SYLLABUS

B. Sc. First Year (Chemistry)

Semester-I & II

C B C S

In force from June - 2019

Aims and Objectives.

1 B. Sc. First year, Chemistry syllabus has been framed as per UGC-CBCS pattern.

2 The students are expected to understand the fundamentals, principles, mathematical concepts and recent developments in the subject area.

3 To enable the students to understand basic concepts, nomenclature, functional groups, hydrocarbons, aromaticity, and fundamental term in organic chemistry.

4 The students are able to know the elements present in nature & its properties.

5 The practical course is in relevance to the theory courses to improve the understanding of concepts in chemistry.

6 It would help in development of practical skills of the students.

7 It is expected to inspire the students towards competitive exams in chemistry

Distribution of credits for B.Sc. Chemistry (optional)

Under Faculty of Science & Technology

B. Sc. Syllabus structure

Semester Pattern (CBCS) effective from June, 2019

Subject: Chemistry

Total credits semester I and II: 12

Semester	Paper No.	Name of the Course	Instruction Hrs/ week	Total period	Internal CA	ESE	Total Marks	Credits
I	CCC I (Section A)	Organic + Inorganic Chemistry, **P-I**	02+01=03	30+15=45	10	40	50	2
	CCC I (Section B)	Physical + Inorganic Chemistry, **P-II**	02+01=03	30+15=45	10	40	50	2
II	CCC II (Section A)	Organic + Inorganic Chemistry, **P-III**	02+01=03	30+15=45	10	40	50	2
	CCC II (Section B)	Physical + Inorganic Chemistry, P-IV	02+01=03	30+15=45	10	40	50	2
	CCC P-I (CCC- I & II), (section A&B)	Practical's based on Section A & Section B of CCC-I & CCCC- II (P-V)	04	20 Practicals	20	80	100	4

Note:

- The syllabus is based on six theory periods and four practical periods per batch per week. Candidates should require passing separately in theory and practical examinations.
- End Semester Examination (ESE) 40 marks .
- Continuous Assessment (CA) 10 marks (Test of assignment and attendance).
- At least twenty practicals should be taken: **6** practicals from Inorganic Chemistry, **8** from Organic and **6** from Physical Chemistry.

B.Sc. Chemistry First Year (Semester-I)

Paper-I: Organic + Inorganic Chemistry, (CCC-I)

Credits: 02 **Periods: 45**

Section-A (Organic Chemistry)

Unit-1

1. **Nomenclature of Organic Compounds: 07**

Functional groups and types of organic compounds, Basic rules of IUPAC Nomenclature, Nomenclature of mono and bi- functional compounds on the basis of priority order of following classes of organic compounds: alkanes, alkenes, alkynes, alcohols, ethers, aldehydes, ketones, carboxylic acid, carboxylic acid derivatives (acid halides, esters, anhydrides, amides), amines; Nomenclature of aromatic compounds: Mono, di and polysubstituted benzene (with not more than two functional groups),

Unit-1I

2. **Basic Concepts in Organic Chemistry: 09**

Basic terms: Substrate and Reagents, types of reagents (Electrophilic and Nucleophilic).

Notation of arrows: curved arrow, Half headed arrow, double headed arrow, straight arrow. Bond fission: Homolytic and heterolytic fission.

Reaction intermediates: Carbocation, Carbanion, Free radical, (Introduction, structure & Stability), carbene, nitrene & benzyne (only introduction).

Electron mobility: Inductive effect (effect on acidic strength of alpha substituted acetic acid and α-chloroacetic acid), Mesomeric effect (Aniline and Nitrobenzene), Hyperconjugation (toluene).

Unit-III

3. **Alkanes Alkenes and alkynes: 08**

3.1 Alkanes: Introduction, Preparation of alkanes from a) Hydrolysis of Grignard reagent b) Kolbes synthesis. Chemical reaction: a) Pyrrolysis (mechanism), b) aromatization.

3.2 Alkenes: Introduction, Preparation methods a) But-1-ene from but-1-yne b) But-2-ene from butan-2-ol.

Chemical reactions with mechanism: a) Electrophilic addition of Br_2 to ethene b) Electrophilic addition of HBr to propene C) Free radical addition of HBr to propene (Peroxide effect).

3.3 Alkynes: Introduction, Preparation of ethyne from a) Iodoform, b)Hydrolysis of calcium carbide. Chemical reactions: Electrophilic addition of HBr and Br_2 to ethyne (with mechanism).

Unit-IV

4. Cycloalkanes, Cycloalkenes and Dienes : 06

4.1 Cycloalkanes: Introduction, Preparation of cycloalkanes from a)Adipic acid b)Aromatic hydrocarbon.

Baeyer strain theory and Saches Mohr theory. Ring opening reaction with H_2 and HI.

4.2 Cycloalkenes: Introduction, preparation methods:

a) Dehydration of cyclohexanol ,

b) Dehydrohalogenation of halocyclohexane.

Chemical reactions: a) Epoxidation of cyclohexene, b) Allylic halogenations.

4.2 Dienes: Introduction, classification & Resonance structures.

Preparation methods of 1,3-butadiene from- a) 1,4-dibromobutane, b)1,4-butanediol.

Chemical reactions: a) addition of Br2 and HBr to 1,3-butadiene, b) addition of ethene to 1,3-butadiene (Diel's- Alder reaction).

(Section –B : Inorganic Chemistry)

Unit- V

1 Periodic Table and Periodic Properties: 10P

A] Periodic Table:

Modern periodic law, Long form of the periodic table, Sketch, Cause of periodicity, Division of elements in to s, p, d, and f blocks. General characteristics of s, p, d and f block elements.

B] Periodic properties:

a) Atomic and Ionic size: Definition and explanation of atomic radius, ionic radius, Covalent radius, Vander waals radius. Variation of atomic size along a period and in a group.

b) Ionization Energy: Definition and Explanation, Successive ionization energy, Factors affecting ionization energy. Variation of ionization energy along a period and in a group. Applications of ionization energy to chemical behavior of an element.

c) Electron Affinity: Definition and Explanation, Successive electron affinity, Factors affecting electron affinity. Variation of electron affinity along a period and in a group.Applications of electron affinity to chemical behavior of an element. Difference between ionizationenergy and electron affinity.

d) Electronegativity: Definition and Explanation, Factors affecting electronegativity. Variation of electronegativity along a period and in a group.Pauling's approach of electronegativity. Calculations of electronegativity by Pauling's method (Numerical), Mulliken,s approach. Applications of electronegativity to bond properties such as percent ioniccharacter, bond length, bond angle.

Unit- VI

Noble Gas Chemistry: 05

a) Position in the Periodic table b) Electronic configuration

c) Compounds of inert gases, under excited condition, through coordination, by physical trapping (Clathrates**).**

d) Fluorides of xenon: XeF2, XeF4 and XeF6 preparation, properties and structures.

Outcomes:

After completion of syllabus students will be able to understand following outcomes.

1. Student should learn basic concept of organic chemistry, Nomenclature.
2. Student get well acquainted with functional group in organic chemistry.
3. To understand the basic concepts and differences aliphatic hydrocarbons.
4. To know about term cycloalkane , cycloalkene and diene.
5. Learn and practice about organic compounds with their names.
6. Students learn some exceptional electronic configuration, trends and Periodicity in the following properties like atomic size, ionization energy, electron affinity & electronegativity.
7. To understand the inert gases forms compounds, different fluoride compounds of xenon.

Reference:

1. A New Pattern Text Book of Organic Chemistry for Competition: O.P.Tandon and A.K.Virmani (G.R.Bathla& Sons Publication) 2009 Edition
2. Chemistry for Degree Students: R.L.Madan (S.Chand Publication) 2010 Edition
3. A Textbook of Organic Chemistry: ArunBahl and B.S. Bahl (S.Chand Publication) 2011 Revised Colour Edition.
4. Organic chemistry: S M Mukherji and S P Singh, (New Age International Publication) vol.I, Second edition, 2010.
5. Principles of Organic Chemistry by R.O.C. Norman and J.M. Coxon.
6. Organic Chemistry byRobert Thornton Morrison and Robert Neilson Boyd
7. A Guide book to mechanism on Organic Chemistry: Peter Sykes.
8. Text Book of organic Chemistry: P. L. Soni.
9. Principles of Inorganic chemistry by Puri, Sharma and Kalia.
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11. Concise Inorganic Chemistry by J. D. Lee.
12. Basic Inorganic Chemistry by F. A. Cotton, G. Wilkinson and P. L. Gaus.
13. Inorganic Chemistry by A. G. Sharp.
14. Inorganic Chemistry by G. L. Miessler and D. A. Tarr.
15. Chemistry for degree students by Dr. R.L. Madan, (S. Chand)

B. Sc. First Year (Semester-I)

Paper-II (CCC-I)

Physical + Inorganic Chemistry

Credits: 02 **Periods: 45**

Section A -(Physical Chemistry)

Unit-I: Mathematical concept and SI Units **07 P**

(A) Mathematical concept:

1.1 Logarithm: Rules of logarithm, Characteristic and Mantissa, Change of sign and base, Numerical problems.

1.2 Definition of pH and pOH, Relation between pH and POH, Numerical Problems based on pH and OH.

1.3 Graphical representation: Rules for drawing graph, coordinates etc., Equation of straight lines, slope and intercept and Numerical Problems.

1.4 Derivative: Rules of differentiation, partial differentiation, Algebraic, logarithmic and exponential functions.

1.5 Integration: - Rules of integration, Algebraic and exponential functions.

1.6 Permutation, combinations and Probability, Numerical Problems.

(B) SI Units:

1.7 International systems of units, derived units, subsidiary units, prefixes used in SI units, internal conversions of these units.

Unit -II: Surface Chemistry **07P**

2.1 Introduction, Adsorption, mechanism of adsorption, factors affecting adsorption.

2.2 Difference between adsorption and absorption.

2.3 Types of adsorption: Physical adsorption and chemical adsorption.

2.4 Adsorption of gaseous by solids. Adsorption isotherm, Types of adsorption isotherm: i) Freundlich adsorption isotherm ii) Langmuir adsorption isotherm (Derivation).

Unit-III :Gaseous State **09P**

3.1 Kinetic molecular theory of gases -Postulates of kinetic molecular theory of gases. Derivation of kinetic gas equation. Ideal and non-ideal gases.

3.2 Deviation of gases from Ideal behavior and Compressibility factor (Z). Derivation of Van der waals equation, Units for Van der waals constants.

3.3 Critical phenomenon-The P-V isotherms of Carbon dioxide, application of Vander Waals' equation to the isotherms of Carbon dioxide, relation between critical constants and Van der Waals constants..

3.4 Liquefaction of gases, Linde's method, Claude's method.

3.5 Molecular velocities-Root mean square, average and most probable velocities, Relation between molecular velocities, qualitative discussion of the Maxwell's distribution of molecular velocities.

3.6 Numerical on Vander Waals constants and Critical constants, Root mean square velocities.

Unit-IV : Solid state **07P**

4.1 Introduction, Characteristics of solids, space lattice and Unit Cell.

4.2 Laws of crystallography :-(i) Law of constancy of interfacial angles, (ii) Law of symmetry, Symmetry elements in crystals and (iii) Law of rational indices.

4.3 Weiss indices and Miller indices, Determination of Miller indices. Numerical on Miller indices

4.4 Cubic Unit cells and types of cubic unit cells, spacing of lattice planes.

4.5 X-rays crystallography, Derivation of Bragg's equation. Experimental methods- The Rotating Crystal method and The Powder method.

4.6 Determination of crystal structure of NaCl and KCl on the basis of Bragg's equation.

(Section –B : Inorganic Chemistry)

Unit- V

A) S-Block elements: **10**

General characteristics of S-block elements Variation in properties of S-block elements, atomic radii , ionization potential, colour of flame, reducing property and metallic property, diagonal relationship between Li and Mg, Points of difference between Li and other alkali metals. General study of hydrides of IA and IIA group. General studies of Oxides IA and IIA group, Basic strength of hydroxides of alkali and alkaline earth metals , Carbonates and bicarbonates of alkali and alkaline earth metals. Complexes of alkali metals with salicylaldehyde ,acetylacetone. wrap around complexes with polydentate ligand such as crown ether and cryptate. Complexes of alkaline earth metals such as beryllium oxalate ion, chlorophyll and complex of calcium with EDTA.

B) Oxidation and reduction: 05

Definition of oxidation, Reduction, Oxidizing agent and reducing agents according to classical concept , electronic concept, oxidation number concept. Rules for assigning oxidation number, Balancing of redox reaction by

1) Ion-electron method and

2) Oxidation number method

Outcomes: After completion of syllabus students will be able to understand following outcomes.

1. Learning and understanding rules of logarithm, Rules of drawing graph, Derivatives, Integration , different mathematical concept and SI units, and their use in solving numerical.
2. Learning surface phenomena at heterogeneous surfaces.
3. Student will learn the basic knowledge of gas phase, Kinetic molecular theory, critical phenomenon , liquefaction and molecular velocities.
4. To impart knowledge about solid phase, crystallography and some crystal structure.
5. General characteristics of s-block elements, oxides, hydroxide, carbonate & its complexes
6. Study the oxidation and reduction by different methods.

Reference Books:-

1. Mathematical preparation for physical Chemistry .By F. Daniel, Mc. Graw Hill publication.
2 . University General Chemistry. By C.N. R. Rao Mc. Millan Publication.
2. Principles of Physical Chemistry. By Maron and Pruton 4th Ed. Oxford and IBH publication.
4 . Physical Chemistry. By G.M. Barrow. th
5. Essentials of Physical Chemistry .By B. S. Bahl, G. D. Tuli, ArunBahl (S. Chand and Co Ltd.) (25 edition)
6 . Elements of Physical Chemistry.By S. Glasstone and D. Lewis (The Macmillan Press Ltd.)
7 . Physical Chemistry. By Robert A. Alberty(John Willey and Sons)
8. Principles of Physical Chemistry. By Puri– Sharma.
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11 . Principles of Inorganic chemistry by Puri, Sharma and Kalia.
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B.Sc. Chemistry First Year (Semester-II)

Paper-III: Organic + Inorganic Chsemistry, (CCC-II)

Credits: 02 **Periods: 45**

Section-A (Organic Chemistry)

Unit-I : Aromatic Hydrocarbons and Aromaticity **09**

Introduction, Nomenclature, kekule and resonance structure of benzene, stability, Orbital picture of benzene. Aromaticity and antiaromaticity by Huckel's Rule (Benzene, Napthalene, Anthracene, Pyrrrole, Furan, Thiophene, Pyridine, Cyclopentadienyl cation and anion, Cyclopropenyl cation). Electrophilic Substitution reaction of benzene (with mechanism): Nitration, Halogenation, Friedel Craft alkylation and acylation. **Orientation effect:** Effect of activating and deactivating groups (-OH, NO_2, CH_3, Cl) on aromatic electrophilic (Nitration) substitution reaction (with mechanism)

Unit-II: 1. Phenols **05**

Introduction, classification and acidic character of phenol (compare with ethanol). Chemical reactions with mechanism: Reimer-Tiemann reaction, Acetylation, Fries rearrangement, Kolbe's carboxylation reaction.

2: Haloalkenes and Haloarenes **06**

2.1 Haloalkenes:

a] Vinyl Chloride: synthesis of vinyl chloride from 1) 1, 2- dichloroethane 2) ethene Chemical reactions: Addtion reaction with HBr , polymerization reaction.

b] Allyl Iodide: synthesis of allyl iodide from 1) allyl chloride 2) glycerol and HI. Chemical reactions: reaction with NaOH, KCN, & Br_2.

2.2 Haloarenes:

Introduction, Synthesis of halobenzene from 1) Hunsdiecker reaction 2) Gattermann reaction. Chemical reactions (with mechanism): Ullamann biaryl synthesis. Resonance & Relative reactivity of alkyl halides v/s vinyl and aryl halides towards nucleophilic substitution reactions.

Unit-III : Carboxylic acid derivatives: **05**

A) **Acid Chlorides:** Introduction, preparation methods: 1) From acetic acid and thionyl chloride, 2) From acetic acid and phosphorous pentachloride . Chemical reactions: (Hydrolysis, Action with alcohol, Action with amines).

B) Acid anhydrides: Introduction, preparation methods: **1) F**rom acetyl chloride and carboxylic acid**, 2) F**rom acetyl chloride and sodium acetate. Chemical reactions: **(H**ydrolysis, Action with alcohol, **A**ction with amines).

C) Esters: Introduction, preparation methods: **1)** From ethyl alcohol and acetic acid **, 2)** From ethyl alcohol and acetyl chloride. Chemical reactions: **(**Hydrolysis, Action of amines, Reduction).

D) Amides: Introduction, preparation methods: **1)** From ammonia and acetyl chloride **2)** From ammonia and acetic anhydride. Chemical reaction: (Hydrolysis, Action of nitrous acid).

Unit- IV: Alcohols and epoxides **05**

A) Alcohols: Introduction and Classification.

a) **Dihydric alcohol (ethylene glycol**): Preparation methods: (Hydroxylation of alkene and From 1,2-dihaloalkane). Chemical reactions: [Reaction of ethylene glycol with, 1) $Pb(OAC)_4$, 2) $P_2O_5/ZnCl_2$].

b**) Trihydric alcohol (Glycerol):** Preparation methods from: 1) Oils and fats 2) Propene. Chemical reactions: [Reactions of glycerol with, 1) Nitric acid, 2) Acetyl chloride].

B) Epoxides : Introduction and nomenclature. Preparation methods:

a) Oxidation of ethene in presence of Ag catalyst , b) Oxidation of ethene with per acetic acid. Chemical reactions: (Ring opening reactions of propylene oxide in acidic

b) and basic medium/reagent,

Section –B : Inorganic Chemistry.

Unit IV : Study of P-block elements: **05**

Variation in properties : atomic radius, ionization energy, electron affinity, electronegativity , metallic character , melting and boiling point , oxidizing and reducing properties , Variation in acidic and basic character of hydroxides of P-block elements , diagonal relationship between B and Si .

Unit-V : Acids and Bases.: **10**

Introduction, Arrhenius concept, Bronsted-Lowry concept, Lewis acids and bases concept Discuss briefly with suitable example.

Solvent system concept, Cady-Elsey concept, Lux-Flood concept and Usanovich concept for acids and bases.

Definition of Hard, Soft and borderline acids and bases with various example.

Pearson's principle (SHAB Principle), theories of hardness and softness such as Electronic theory, pi- bonding theory and Pitzer's theory.

Application of SHAB Principle such as relative stability of compound, feasibility of chemical reaction. Limitation of SHAB concept.

Outcomes: After completion of syllabus students will be able to understand following outcomes.

1. Student should learn the concept of aromatic hydrocarbons, Aromaticity and antiaromaticity.

2. Student should understand the phenols and synthesis of phenols
3. Student knows about the haloalkene and haloarenes compounds.
4. To know the concepts of carboxylic acids and their derivatives.
5. To know about the types of alcohols and reaction of epoxide.
6. To study the different properties of P- block elements.
7. To know the acids & Bases by different concepts.

Reference:

1. A New Pattern Text Book of Organic Chemistry for Competition: O.P.Tandon and A.K.Virmani (G.R.Bathla& Sons Publication) 2009 Edition

2. Chemistry for Degree Students: R.L.Madan (S.Chand Publication) 2010 Edition

3. A Textbook of Organic Chemistry: ArunBahl and B.S. Bahl (S.Chand Publication) 2011, Revised Colour Edition.

4. Organic chemistry: S M Mukherji and S P Singh, (New Age International Publication) vol.I, Second edition, 2010.

5. Principles of Organic Chemistry by R.O.C. Norman and J.M. Coxon.

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B. Sc. First Year (Semester-II)
Paper-IV (CCC-II)
Physical + Inorganic Chemistry

Credits:02 **Periods: 45**

Section A (Physical Chemistry)

Unit-I : Atomic structure: 08P

1.1 Introduction, Rutherford's alpha particle scattering experiment, Rutherford's atomic model and its drawbacks.

1.2 Bohr's theory of hydrogen atom: Bohr's atomic model- Postulates, Merits and demerits. Derivation for radius of an orbit, velocity of an electron and energy of an electron. Energy difference in terms of wave number and Rydberg constant. Bohr's explanation of hydrogen spectrum.The Sommerfeld extension of the Bohr theory.

1.3 Electronic configuration of elements: Aufbau principle, Pauli's Exclusion principle, Hund's rule of maximum multiplicity and (n + l) rule.

1.5 Quantum numbers.

1.4 Numerical problems on radius and energy.

Unit- II: Liquid state : 07P

2.1 Introduction,Various intermolecular forces in liquids dipole-dipole attraction, London forces, Hydrogen bonding.

2.2 Surface tension of liquid, units of surface tension, effect of temperature on surface tension, determination of surface tension of liquids by stalagmometer method, numerical Problems based on method.

2.3 Viscosity of liquid, units of viscosity, effect of temperature on viscosity, measurement of viscosity by Ostwald's method, numerical Problems based on method.

2.4 Parachor and chemical constitution: Relation between parachor and surface tension, application of parachors in deciding structures.

Unit- III: Colloidal state 07P

3.1 Introduction , classification of colloidal systems.

3.2 Sols (Solids in liquids):-Types of sols, Preparation of sols, Dispersion and aggregation methods. Properties of sols- Colour, Optical (Tyadall effect), Kinetic (Brownian movement) and electrical properties (electrophoresis and electro osmosis). Coagulation of colloidal solution –Hardy Schulze rule. Protective action of sol and Gold Number.

3.3 Emulsions (Liquids in liquids):- Types of emulsions, preparation of emulsion, Emulsifier, Role of emulsifier.

3.4 Gels (Liquids in solids):- Classification gels, preparation of gel and properties gel – Hydration, Swelling, Syneresis and Thixotropy.

3.5 Applications of colloids (Food, Medicine, smoke precipitation, sewage precipitation and in purification of water.)

Unit- IV: Catalysis 08P

4.1 Introduction to Catalyst and Catalysis.

4.2 Catalyst-Type of catalyst, positive and negative catalyst with examples.

4.3 Catalysis:-Type of catalysis, homogenous and heterogeneous catalysis with examples

4.4 Autocatalysis- explanation with examples.

4.5 Characteristics of catalytic reactions.

4.6 Promoters: - Definition, example, explanation of promotion action.

4.7 Catalytic poisoning: - Definition, example, explanation of catalytic poisoning.

4.8 Acid – Base catalysis, General Acid-Base catalysis,examples.

4.9 Enzyme catalysis, examples, mechanism of enzyme catalysis, characteristics of enzyme catalysis.

4.10 Applications of catalysis in industries.

Section –B : Inorganic Chemistry.

Unit- V: Chemical Bonding-I 10

1.1 Definition, Cause for chemical bonding, Types of chemical bonding.

1.2 ***Ionic Bonding****:* Definition and explanation, Factors affecting the formation of ionic bond, Energy charges in the formation of ionic bond, Lattice energy and Born-Haber cycle. Polarizing power andpolarisability andFajan's rule.

1.3 ***Covalent bonding*** *:* Definition and explanation, Sigma and pi-bond, Valence bond theory of covalent bonding and its limitations,

Percentage ionic character in covalent bond from dipole moment and electronegativity difference (Numericals).

1.4 ***Metallic bonding****:* Definition and explanation, Free electron theory of metallic bonding, Effects of metallic bonding on metallic properties.

1.5 ***Vander Waal's bonding****:* Definition and explanation, Types of Vander Waal's forces responsible for Vander waals bonding.

1.6 ***Hydrogen bonding**:* Definition and explanation, Types of hydrogen bonding and consequences of hydrogen bonding. Unique properties of water based on hydrogen bonding. Importance of hydrogen bonding in sustaining life.

Unit-VI : Chemical Bonding –II 05

2.1 ***Concept of hybridization**:* Definition and explanation of dsp2 hybridization by taking example of [Ni(CN)4]-2, sp3d hybridization by taking example PCl5, Sp3d2 hybridization by taking example SF6. Sp3d3 hybridization by taking example IF7.

2.2 ***VSEPR Theory**:* Postulates and explanation, Applications in explaining geometry and bond angle in molecules such as CH4, NH3, and H2O. Limitations of VSEPR theory.

2.3 ***Molecular Orbital Theory**:* Basic principle of MOT, LCAO, Bonding and anti-bonding molecular orbital, Energy level diagram for molecular orbital. Rules for adding electrons in MO's, Bond order,

Molecular orbital diagram of homo nuclear diatomic molecules such as H2, N2, O2, and Ne2And CO.

Outcomes: After completion of syllabus students will be able to understand following outcomes.

1. To impart knowledge of atomic structure, different theories of atomic structure, rules of electronic configuration and quantum numbers.
2. Learning of properties of liquid phase as surface tension, Viscosity and parachor.
3. Student will learn the basic knowledge of colloidal state, types, preparation, properties and applications of colloidal state.
4. Learning and understanding of catalysis, types of catalysis and characteristics of catalyzed reactions.
5. To understanding the chemical bond and its different types of bonds.
6. Learning the Concept of hybridization and study of VSEPR & Molecular Orbital theory.

Reference Books:-

1. Mathematical preparation for physical Chemistry .By F. Daniel, Mc. Graw Hill publication.

2 .University General Chemistry. By C.N. R. Rao Mc. Millan Publication.

3. Principles of Physical Chemistry. By Maron and Pruton 4th Ed. Oxford and IBH publication.

4 .Physical Chemistry.By G.M. Barrow. th

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7 .Physical Chemistry. By Robert A. Alberty(John Willey and Sons)

8. Principles of Physical Chemistry. By Puri– Sharma.

9. The Elements of Physical Chemistry .By P. W. Atkins

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B.Sc. First Year

Paper-V [CCCP-I]

credits: 04 Periods : 120

Note : At least Sixteen experiments should be taken.

A) Inorganic Chemistry

Identification of Two acidic and Two basic radicals by Semi-micro qualitative analysis technique.(Including interfering radicals). **(Any Six)**

1) At least eight mixtures of salt must be practiced.

2) Spot- tests (of each radical) are compulsory.

B) Organic Chemistry

I) Preparations **(Any Four)** :

a) Phthalimide from phthalic anhydride and urea. b)Acetanilide from aniline.

c) Iodoform from acetone.

d) Phenyl – azo – β –naphthol from aniline. e) m-Dinitobenzene from nitrobenzene.

f) Phthalic anhydride from phthalic acid.

(Recrystallization and Melting point of product is compulsory)

II) Determination of Physical constant of Organic liquids **(Any four)**

Aniline, Ethanol, Toluene, Benzene, ortho and meta toluidines, Chlorobenzene and Nitrobenzene.

III) Demonstration on purification by -

a) Recrystalisation of Phthalic acid/Benzoic acid from hot water.

b) Distillation of Ethyl alcohol.

c) Sublimation of Napthalene.

C) Physical Chemistry (Any Six)

1. Determination of the Viscosity of liquid by Ostwald's viscometer.

2. Determination of the Viscosity of two pure liquids A & B. Hence find the composition of the mixture of two liquids. (Density data of liquids, viscosity of water to be given).

   [Any two liquids from : Acetone, Carbon terachloride, Chloroform, Ethyl alcohol, Benzyl alcohol, Ethylene glycol and n-propyl alcohol].

3. To determine the surface tension of a given liquid by stalagmometer method.

4. Determine the equivalent weight of magnesium by hydrogen displacement method using Eudiometer.

5. To study Kinetics of hydrolysis of ester in presence of mineral acid like HCl.
6. Preparation of As2S3 solution from As2O3 and compare the precipitation power of NaCl and MgCl2.
7. To study distribution of benzoic acid between benzene and water.
8. To study critical solution temperature (CST) of phenol water system.
9. Determination of Heat of solution of KNO3/NH4Cl.
10. Determination of Heat of reaction of displacement of copper by zinc.
11. To study kinetics of cooling of hot water.

Reference Books :

1. Advanced practical Inorganic chemistry by Gurudeep Raj.
2. Experiments in Inorganic chemistry by Gurtu andKapoor.
3. Practical Organic chemistry by A.I. Vogel.
4. Experiments inGeneral chemistry by C.N.R. Rao and Agrawal East West Press.
5. Experiments in Physical chemistry by R.C. Das and Behere, Tata McGraw Hill.
6. Experimental Physical chemistry by F. Daniel and others (International Student Edition).
7. Systematic Experimental Physical chemistry by S.W. Rajbhoj and Dr. T.K. Chondhekar, Anjali Publication, Aurangabad.
8. Advanced practical physical chemistry by J.B. Jadhav (Goel Publishing house, Meerut).
9. Experiments in Chemistry by D.V. Jahagirdar.
10. A Textbook of quantitative Inorganic analysis by A.I. Vogel

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.११/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

1. B.Sc.-II Year-Biophysics
2. B.Sc.-II Year-Bioinformatics
3. B.Sc.-II Year-Biotechnology
4. B.Sc.-II Year-Biotechnology (Vocational)
5. B.Sc.-II Year-Food Science
6. B.Sc.-II Year-Botany
7. B.Sc.-II Year-Horticulture
8. B.Sc.-II Year-Agro Chemical Fertilizers
9. B.Sc.-II Year-Analytical Chemistry
10. B.Sc.-II Year-Biochemistry
11. B.Sc.-II Year-Chemistry
12. B.Sc.-II Year-Dyes & Drugs Chemistry
13. B.Sc.-II Year-Industrial Chemistry
14. B.C.A. (Bachelor of Computer Application)-II Year
15. B.I.T. (Bachelor of Information Technology)-II Year
16. B.Sc.-II Year-Computer Science
17. B.Sc.-II Year-Network Technology
18. B.Sc.-II Year-Computer Application (Optional)
19. B.Sc.-II Year-Computer Science (Optional)
20. B.Sc.-II Year-Information Technology (Optional)
21. B.Sc.-II Year-Software Engineering
22. B.Sc.-II Year-Dairy Science
23. B.Sc.-II Year-Electronics
24. B.Sc.-II Year-Environmental Science
25. B.Sc.-II Year-Fishery Science
26. B.Sc.-II Year-Geology
27. B.Sc.-II Year-Mathematics
28. B.Sc.-II Year-Microbiology
29. B.Sc.-II year Agricultural Microbiology
30. B.Sc.-II Year-Physics
31. B.Sc.-II Year Statistics
32. B.Sc.-II Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**३३३**
दिनांक : १५.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

CHOICE BASED CREDIT SYSTEM (CBCS) SEMESTER PATTERN B.A./B.Sc. (Mathematics)

CURRICULUM

Note:

1. Assessment shall consist of Continuous assessment (CA) and End of Semester Examination (ESE).
2. Weightage for Theory Papers: 80% for ESE & 20% for CA. and weightage for SEC : 50% for ESE & 50% for CA.
3. Workload includes Unit tests.

B.A./B.Sc. (Mathematics) Semester III and IV
Curriculum will be progressively effective from June-2020 Onwards.

Semester	Section and Paper Code	Period per week	Paper No. and Title of the papers	Marks of ESE	Marks of C.A.	Total Marks	Credits
III	CCM-3 Section A	5	Paper -VI Real Analysis-I	40	10	50	2
	CCM-3 Section B	5	Paper-VII Group Theory	40	10	50	2
	CCM-3 Section C	5	Paper-VIII Ordinary Differential Equations (This paper is only for B.Sc.)	40	10	50	2
	CCM-3 SEC-I	3(Theory-1 & Practical-2)	Two skills out of which one skill can be chosen	25	25	50	2
IV	CCM-4 Section A	5	Paper-IX Real Analysis-II	40	10	50	2
	CCM-4 Section B	5	Paper -X Ring Theory	40	10	50	2
	CCM-4 Section C	5	Paper-XI Partial Differential Equations (This paper is only for B.Sc.)	40	10	50	2
	CCM-4 SEC-II	3(Theory-1 & Practical-2)	Two skills out of which one skill can be chosen	25	25	50	2
Total Credits							16

B.A./B.Sc.S.Y. (Semester-III)
(CBCS PATTERN)
CCM-3, Section-A
Paper VI: Real Analysis-I

Course Description: This course provides an elementary knowledge of Sets, Properties of sets, Open set, Closed set, Real sequences, Subsequences, Principle of convergence for sequences, Infinite series, General principle of convergence for series, Comparison Test for Series.
Objectives: A primary objective of the course is to learn elementary knowledge of Sets, Properties of sets, Real sequences, Infinite series, and Comparison test for series.
Outcomes: After successful completion of the course student will be able to

1. Understanding the basic concept of sets and their properties.
2. Understanding the concept of a neighborhood of a point, interior points of a set, open set.
3. Understanding concept of limit points of a set, closed set, closure of a set, dense set.
4. Understanding the basic concept of sequences, subsequences, bounds of sequences, limit point of sequences, general principle of convergence, different types of sequences.
5. Understanding the concept of infinite series, different types of series, the general principle of convergence
6. Use the results to solve some problems.
7. Understanding the difference between different types of sequences, series, and comparison tests.

Unit-I: Sets and Properties

Field structure and order structure, Intervals, Bounded and unbounded sets, Supremum, Infimum, Completeness in the set of real numbers, Order completeness in R, Archimedean property of real numbers, Dedekind's Property, Complete-ordered field, Representation of real numbers as points of a straight line, Neighbourhood of a point, Interior point of a set, Open set, Limit point of a set, Bolzano-Weierstrass theorem, Closed sets, Closure of a set, Dense sets, Some important theorems, Countable and uncountable sets.

Unit-II: Real Sequences

Sequence, Range set, Bounds of a sequence, Convergence of sequences, Some theorem, Limit point of a sequence, Existence of limit points, Convergent sequences, Cauchy's general principle of convergence, Cauchy's sequence, Algebra of sequences, Some important theorem, Monotonic sequences, Subsequences.

Unit-III: Infinite Series

Introduction, Definitions, Necessary condition for convergence, Cauchy's general principle of convergence for series, Some preliminary theorems, Positive term series, Necessary condition for convergence of positive term series, Geometric series, Comparison series, Series with arbitrary terms, Alternating series, Absolute convergence, Rearrangement of terms,

Fourier series.

Unit-IV: Comparison Test for Series

Comparison test (first and second type), Cauchy's root test, D 'Alembert's root test, Raabe's test, logarithmic test, Test for series of arbitrary term.

Text Book 1:
S.C.Malik and Savita Arora, Mathematical Analysis, New Age International (P) Ltd, Fourth Edition 2012 (Reprint 2014).
Scope:

Unit I:
Chapter 1: Art 2,2.1,2.2,2.3,2.4,2.6,3,4,4.1,4.2(Corollary's 1,2,3,4,5 only statement),4.3,4.5,4.6,
Chapter 2: Art 1.1, 1.2, 1.3(Corollary's only statement), 2, 2.1(Theorem only statement), 2.2,3,3.1,3.2,3.3,3.4,3.5(Theorems 10,11,12 and Corollary only statement),4
Unit-II:
Chapter 3: Art 1,1.1,1.2,1.3,1.4,2,2.1,2.2,2.3,4,4.1,4.2(Only definitions and statement of theorem 13),6,6.1,7 (Only Theorem 16 and its Lemma),8 (Theorem 20,21,22,23 and 24 and Examples 8,9,10 only),9,9.1(Definition, Examples 14,15,16 only).
Unit-III:
Chapter 4: 1,1.1,1.2,1.3,1.4,2,2.1,2.2,2.3,10,10.1,10.2,11
Chapter 14:1,1.1
Unit-IV:
Chapter 4: 3,3.1, 3.2, 3.3, 4, 5, 6, 7, 10.3

REFERENCES :

1. Richard R. Goldberg, Methods of Real Analysis, Oxford & IBH Publishing Co. Pvt.Ltd.,New Delhi

2. Shanti Narayan and Dr. M.D. Raisinghania, Elements of Real Analysis, S. Chand & Company Ltd., New Delhi.

3. R.G.Bartle and D.R.Sherbert, Introduction to Real Analysis, John Wiley & Sons (Asia) P.Ltd, 2002.

4. William F.Trench, Introduction to Real Analysis, Pearson Education Pub.

5. T.M.Apostol, Calculus (Vol.1), John Wiley & Sons (Asia) P.Ltd., 2002.

6. K.A.Ross, Elementary Analysis-The Theory of Calculus Series-Undergraduate Text in Mathematics, Springer Verlag, 2003.

B.A/B.Sc.S.Y. (Semester-III)
(CBCS PATTERN)
CCM-3,Section B
Paper VII: Group Theory

Course Description: This course provides an elementary knowledge of Relation, Equivalence relation, Group, Properties of groups, Subgroups, Order of a group, Cyclic groups, Normal subgroups, Automorphism of a group.
Objectives: A primary objective of the course is to learn elementary knowledge of Group Theory.
Outcomes: After successful completion of the course student will be able to

1. Understand the concepts on an equivalence relation.
2. Find the examples of equivalence relation.
3. Check whether the given set, is a group for the given operation or not.
4. Understand the general properties of groups.
5. Solve problems on groups.
6. Understand the concepts of the cyclic group.
7. Use Lagrange's theorem to solve the problems in number theory.
8. Form a quotient group.
9. Find the kernel of a group homomorphism.

Unit-I:

Cartesian product of two sets, Functions or mappings, Types of functions, Inverse image of an element, Inverse function, Intervals defined as sets of real numbers, Product or Composite of functions, Some properties of composite of mappings, Binary operation, Relations, Equivalence relations, Equivalence classes, Properties of equivalence classes. Groups: Binary operation on a set, Algebraic structure, definition of group, abelian group, finite and infinite groups, order of an infinite group, General properties of a group.
Unit-II:

Composition table for finite sets, Addition modulo n, Multiplication modulo p, Residue classes of the set of integers, Permutations, Group of permutations, cyclic permutations, Integral powers of an element of a group, Order of an element of a group, Complexes and subgroups of a group. Criterion for a complex to be a subgroup.

Unit-III:

Cosets, Relation of congruence modulo, Lagrange's theorem, Euler's theorem, Fermat's theorem, Caleys's theorem, Cyclic groups, Some properties of cyclic group, Subgroup generated by a subset of a group.

Unit-IV:

Normal subgroups, Quotient groups, Homomorphisms of a groups, Kernal of homomorphism, Fundamental theorem on homomorphism of groups, Automorphisms of a group,

Inner automorphisms.

Text Book 1:

A.R. Vasishtha,Modern Algebra, (Krishna Prakashan Mandir) (19th-edition).
Scope:
Unit I: Chapter 1:§18 to 37, Chapter 2: §1 to 5
Unit-II: Chapter 2: §7 to 10, §12, 13,14,16, 17,22,24.
Unit-III: Chapter 2: §27, 28, 29, 31, 32, 33, 34.
Unit-IV: Chapter 3: §1, 4, 5, 6, 7, 8.

REFERENCE BOOKS :

1. I.N. Herstein, Topic in Algebra John Wiley and Sons (New York).
2. J.B. Fraleigh, A first course in abstract algebra, Narosa Publications.
3. Joseph Gallion, Contemporary Abstract Algebra, Narosa Publications.
4. R.P. Rohtatgi, Modern Algebra, Dominant Publishers and Distributors, New Delhi.
5. Goyal and Gupta, Modern Algebra, Pragati Prakashan Meerut.
6. P.B. Bhattacharya, S.K. Jain and S.K. Nagpaul, Basic Abstract Algebra, Cambridge University Press Indian Edition.
7. N.S. Gopalkrishnan, University Algebra, New Age, Delhi.
8. Shanti Narayan, A Text Book of Modern Algebra, S.Chand and C0., New Delhi.
9. M.Artin, ALgebra, Pub, PHI New Delhi 1994.

B.Sc.S.Y. (Semester-III)
(CBCS PATTERN)
CCM-3, Section-C
Paper VIII: Ordinary Differential Equations

Course Description: This course provides an elementary knowledge of the Equations the First Order, and of the first degree, Equations of the first order but not of the first degree, Linear equations with constant coefficients and Linear equations with variable coefficients.

Objectives: A primary objective of the course is to learn elementary knowledge of Ordinary Differential Equations.

Outcomes: After successful completion of the course student will be able to

1. Understanding concept of solution of differential equations, order and degree.
2. Transform the equations into variable separable form.
3. Transform first-order non-homogeneous equation in x and y to homogeneous equation in x and y and solve it.
4. Find the equations that can be resolved into components equation and solve it.
5. Solve Clairaut's equation.
6. Find the solutions when the auxiliary equations are equal, different, repeated, and imaginary roots.
7. Find the solution of the exact differential equation, rules of finding the integrating factor.
8. Transform non-linear equation to linear equation and solve it.
9. Find integral corresponding to a term of the form e^{ax}, x^m, $\sin ax$ or $\cos ax$, $e^{ax}V$, xV, x^2V in the second member.
10. Find the solution of linear equation with variable coefficients.
11. Transform the equations to the homogeneous linear form.
12. Transform the homogeneous linear equation with constant coefficient by changing the independent variable x to z by putting $x = e^z$ or $Z = \log x$

Unit-I:

Formation of a Differential Equation: Ordinary and partial differential equations, Order and degree, Solution and constant of integration, Equation of the first order and the first degree: Equations of the form $f_1(x)dx + f_2(y)dy = 0$, Equations homogeneous in x and y, Non-homogeneous equations of the first degree in x and y, Exact differential equations, Condition that an equation of the first order be exact, Rules for finding the solution of an exact differential equation, Integrating factors, The number of integrating factors is infinite, Integrating factors found by inspections.

Unit-II:

Rules for finding integrating factors, Rules $I\&II$, Rules $III\&IV$, Rule V, Linear equations, Equation reducible to the linear form. Equations of the first order but not of first degree: Equations that can be resolved into component equations of the first degree, Equations that can't be resolved into component equations, Equations solvable for y, Equation solvable for x, Equations that do not contain x, that do not contain y, Equations homogeneous in x and y, Equations of first degree in $x\&y$: Clairaut"s equation.

Unit-III:

Linear equations with constant coefficients: Linear equations defined, The Complementary Function, The particular integral, The complete solution, The linear equation with constant coefficients and second member zero, Case of the auxiliary equation having equal roots, Case of the auxiliary equation having imaginary roots, The symbol D(Theorem concerning D), Another way of finding the solution when the auxiliary equation has repeated roots, The linear equation with constant coefficients and a second member a function of x, The symbolic function $1/f(D)$, Methods of finding the particular integral.

Unit-IV:

Short method of finding the particular integrals in certain cases: Integral corresponding to a term of the form $e^{ax}, x^m, \sin ax$ or $\cos ax$ in the second member, Integral corresponding to a term of the form $e^{ax}V, xV$ the second member
Linear Equations with Variable Coefficients: The homogeneous linear equation first method of solution, Second method of solution: (A) To find the complementary function, (B) To find the particular integral, The symbolic function $f(\theta)$ and $1/f(\theta)$, Method of finding the particular integral, Integral corresponding to a term of the form x^m in the second member, Equation reducible to the homogeneous linear form.
Text Book 1:
Daniel A. Murray, Introductory Course in Differential equations, Published by Orient Longman Limited.
Scope:
Unit I: Chapter I : Art. 1 to 2
Chapter II: Art. 8 to 16
Unit-II: Chapter II: Art 17 to 21, Chapter III: Art 22 to 28(Complete)
Unit-III: Chapter VI: Art 49 to 58
Unit-IV: Chapter VI: Art 59 to 64, Chapter VII: Art 65 to 71

REFERENCES :

1. M.D. Raisinghania, Ordinary and Partial Differential Equations, S. Chand and Company Limited.

2. G. Birkhoff and G. C. Rota, Ordinary Differential Equations, John Wiley and sons.

3. Frank Ayres, Theory and Problems on Differential Equations, McGraw Hill.

4. George F. Simmons, Differential Equations with Applications and Historical Notes, Tata McGraw Hill Publishing House Limited.

SEC-I(Open Elective) (Semester-III)
(CBCS PATTERN)

ANNUAL PATTERN EVALUATION SKILLS
(SECM-I for 2 Credits)

Note:

1. This open elective will opt any students of second year for any descipline.
2. Amongst the following skills students can choose one for third semester.

SKILL-I

- Plotting of Graphs using Mathematical software like Scilab, MATLAB, Mathematica, Maple etc.

SKILL-II

- Solving of Ordinary Differential Equations, using Mathematical software like Scilab, MATLAB, Mathematica, Maple etc.

REFERENCES BOOKS :

1. Rudra Pratap, Getting Started with MATLAB 7, Oxford Unversity Press, (Indian Edition) www.oup.com.
2. Michael Baudin, Introduction to Scilab, Consortium Scilab, 2010.
3. Atlas- automatically turned linear algebra software. http://math-atlas.source.forge.net.
4. Cecill and free software.http://www.cecill.info.
5. The Scilab Consortium, Scilab. http://www.scilab.org.
6. Intel. Intel math Kernel library. http://software.intel.com/en-us/intel-mkl/.
7. Sylvestre Ledru. Different execution modes of Scilab. http://wiki.scilab.org/Different_execution_modes_of_Scilab.
8. Flexdock project.Flexdock project home. http://flexdock.dev.java.net/.

B.A./B.Sc.S.Y. (Semester-IV)
(CBCS PATTERN)
CCM-4 Section-A
Paper IX: Real Analysis-II

Course Description: This course provides an elementary knowledge of Riemann integrable function and Riemann integral, conditions of integrability, some integrable and fundamental theorems, improper integral-range of integrations is finite and infinite, comparison tests and general tests.

Objectives: A primary objective of the course is to learn elementary knowledge of Riemann integral and improper integral, other objectives of the course is how to use comparison and general tests.

Outcomes: After successful completion of the course student will be able to

1. Understand the meaning of interval, subinterval, partitions, and their refinement.
2. Understanding the basic concept of upper integral and lower integral and Riemann integral.
3. Understanding difference between upper sum, lower sum and Riemann sum
4. Acquire the idea about Riemann Integrability and Riemann Integration
5. Understand various theorems associated with Riemann Integration
6. Develop a knowledge about Riemann Integration and applies to problems
7. Understand the meaning of improper integral.
8. Determine convergence of improper integrals with discontinuities in their domain or infinite limits of integration.
9. Develop skill in checking the convergence of improper integral using various tests of convergence
10. Understanding distinguishes between convergence and absolute convergence of improper integral.
11. Use comparison test with a corresponding improper integral with other improper integral to decide whether improper integral converge or diverge
12. Use the results to solve some problems.

Unit-I:Riemann Integral

Introduction, Definition, and existence of the integral, Definitions, Inequalities for integrals, Refinement of partitions, Darboux's theorem, Conditions of integrability, Deductions, integrability of the sum and difference of integrable functions, Integrability of the product, Quotient and the modulus of Integrable functions.

Unit-II: Riemann Sum and Some Fundamental Theorems

The integral as a limit of sums (only definitions of Riemann sums), Some applications, Some integrable functions, Integration and differentiation, Fundamental theorem of calculus, Mean value theorems of integral calculus.

Unit III: Improper Integral-Range of Integration is Finite

Introduction, Integration of unbounded functions with finite limits of integrations, Comparison tests for convergence, Useful comparison integral, Examples, General test for convergence, Absolute convergence.

Unit-IV:Improper Integral-Range of Integration is Infinite

Infinite range of integration, comparison tests for convergence at ∞, Comparison test first and second, Useful comparison integral, General test for convergence at ∞, Absolute convergence, Integrand as a product of functions (convergence at ∞).

Text Book :
S.C.Malik and Savita Arora, Mathematical Analysis, New Age International (P) Ltd, Second Edition 1992 (Reprint 2014).
Scope:
Unit I: Chapter 9: §1, 1.1, 1.2, 2, 3, 4(Theorem 4 only statement), 4.1,5,5.1
Unit-II: Chapter 9: §6, 6.1, 6.2, 7(only theorems 12 to13 with corollary and examples), 8, 9, 9.1, 10, 10.1, 10.2
Unit-III: Chapter 11: §1, 2, 3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6
Unit-IV: Chapter 11: §4, 4.1, 4.2, 4.3, 4.4, 4.6, 4.7(theorem4 only statement), 5, 5.1, 5.2

REFERENCES :

1. Richard R. Goldberg, Methods of Real Analysis, Oxford IBH Publishing Co. Pvt.Ltd.,New Delhi
2. Shanti Narayan and Dr. M.D. Raisinghania, Elements of Real Analysis, S. Chand & Company Ltd., New Delhi.
3. R.G.Bartle and D.R.Sherbet, Introduction to Real Analysis, John Wiley & Sons (Asia) P.Ltd, 2002.
4. William F.Trench, Introduction to Real Analysis, Pearson Education Pub.
5. J.A.Anderson, Logos Press Limited, London.
6. T.M.Apostol, Calculus (Vol.1), John Wiley & Sons (Asia) P.Ltd., 2002.
7. K.A.Ross, Elementary Analysis-The Theory of Calculus Series-Undergraduate Text in Mathematics, Springer Verlag, 2003.

B.A./B.Sc.S.Y. (Semester-IV)
(CBCS PATTERN)
CCM-4, Section-B
Paper X: Ring Theory

Course Description: This course provides an elementary knowledge of Ring (Algebraic structure), Field, Ideals, Euclidean rings, Particular Euclidean rings.
Objectives: A primary objective of the course is to learn elementary knowledge of Ring Theory.
Outcomes: After successful completion of the course student will be able to

1. Understand given algebraic structure is a Ring or not.
2. Construct the examples of ring with known examples of ring.
3. Differentiate between zero-divisors and non-zero-divisors in a given ring.
4. Check whether given two rings are isomorphic or not.
5. Check whether the given ideal of a ring is a principal ideal or not.
6. Understand the concepts on principal ideal ring
7. Understand concepts on Euclidean rings.

Unit-I:

Ring: Definition, Elementary properties of a ring, Integral multiples of the elements of a ring, Examples of rings, Some special types of rings, Integral domains, Field, Division ring or Skew field.

Unit-II:

Isomorphism of rings, Properties of isomorphism of rings, Subrings(only definition), Characteristics of a ring, Imbedding of a ring into another ring, the field of quotients, Ideals, More about ideals, Ideal generated by a given subset of a ring, Principal ideal, Principal ideal ring.

Unit-III:

Divisibility in an integral domain, Units, Associates, Prime elements, greatest common divisor, polynomial rings, Degree of the sum and the product of two polynomials, Ring of polynomials, R as a subset of $R[x]$, polynomial over an integral domain, Polynomial over a field, Ring of polynomials in n variables over an integral domain, Divisibility of polynomials over a field, Division algorithm for polynomials over a field, Euclidean algorithm for polynomials over a field

Unit-IV:

Unique factorization domain, Unique factorization theorem for polynomials over a field, Quotient rings or residue class rings, Homomorphism of rings, Kernel of a ring homomorphism, Maximal ideal, Some more results on ideals, Prime ideals, Euclidean rings or Euclidean domains, Properties of Euclidean rings.

Text Book 1:
Modern Algebra, by A.R. Vasishtha (Krishna Prakashan Mandir) (19th-edition).
Scope:
Unit I: Chapter 4:§1 to 6
Unit-II: Chapter 4: §7 to 9, §11, §13, 14, 15, 16, 17, 18.
Unit-III: Chapter 4: §19, 20, 21, 22, 23,24, 25, 26,27,28, 29
Unit-IV: Chapter 4: §30, 31 Chapter 5: §1, 2,3,4,5,6,7,8

REFERENCES BOOKS :

1. I.N. Herstein, Topic in Algebra John Wiley and Sons (New York).
2. J.B. Fraleigh, A first course in abstract algebra, Narosa Publications.
3. Joseph Gallion, Contemporary Abstract Algebra, Narosa Publications.
4. R.P. Rohtatgi, Modern Algebra, Dominant Publishers and Distributors, New Delhi.
5. Goyal and Gupta, Modern Algebra, Pragati Prakashan Meerut.
6. P.B. Bhattacharya, S.K. Jain and S.K. Nagpaul, Basic Abstract Algebra, Cambridge University Press Indian Edition.
7. N.S. Gopalkrishnan, University Algebra, New Age, Delhi.
8. Shanti Narayan, A Text Book of Modern Algebra, S.Chand and C0., New Delhi.
9. M.Artin, ALgebra, Pub, PHI New Delhi 1994.

B.Sc.S.Y. (Semester-IV)
(CBCS PATTERN)
CCM-4, Section-C
Paper XI: Partial Differential Equations

Course Description: This course provides an elementary knowledge of partial differential equation (PDE), Linear and non-linear PDE, Solution of PDE, Method of finding particular integrals, Lagrange's Method, Charpit's Method, Monge's Method, Method of separation of Variables, Wave equation, Heat equation, and Transmission line equation.

Objectives: Partial Differential Equations allows deterministic Mathematical formulation of phenomena in Physics, Engineering, and Biological processes. The objectives of this course are as follows:

1. Introduce students to PDE
2. Introduce students to different methods of solutions of PDE.
3. Techniques of separation of variables to solve PDE.
4. Introduce students to real-world problems like wave equation, heat equation, etc.

Outcomes: After successful completion of the course student will be able to

1. Classification of PDE.
2. Solve linear as well as non-linear PDE of first and second order.
3. Apply PDE techniques to predict the behavior of certain phenomena.
4. Solve real problems by identifying them approximately from the perspective of PDE.
5. Mathematical formation of real problem precisely.
6. Solve problem using boundary conditions.

Unit-I:

Partial differential equation (PDE), Order and method of forming PDE, solution of equations by direct integration, Lagrange's linear equations, method of multipliers.

Unit-II:

Partial differential equations non-linear in p and q, Charpit's method, Linear homogeneous PDE of nth order with constant coefficients, Rules for finding the complementary functions, Rules for finding the particular integral.

Unit-III:

Non-homogeneous linear equations, Monge's method, Method of separation of variables, Equations of vibrating strings, Solution of the wave equation by D'Almbert's method.

Unit-IV:

One-dimensional heat flow, Two-dimensional heat flow, Laplace equations in polar co-ordinates, Transmission line equations.

Text Book 1:
H. K. Dass, Advanced Engineering Mathematics S.Chand and Company Ltd.(2004).
Scope:
Unit I: Chapter 9:§9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7.
Unit-II: Chapter 9:§9.8, 9.9, 9.10, 9.11, 9.12.
Unit-III: Chapter 9: §9.13, 9.14, 9.15, 9.16, 9.17, 9.18.
Unit-IV: Chapter 9: §9.19, 9.20, 9.21, and 9.22.

REFERENCES :

1. D.A.Murray, Introductory course in Differential equation, New York Longmans and Green Co. London and Bombay.
2. M.D. Raisinghania, Ordinary and Partial Differential equations, S.Chand and Co.
3. T.M.Karade, Lectures on Differential equation, Sonu-Nilu Pub.Nagpur.
4. I.N.Sneddon, Elements of Partial Differential Equation, Mc Graw Hill co.
5. Peter Olver, Introduction to Partial Differential equation Springer Cham Heidelberg New York Dordrecht London.
6. A. Singaravelu, Engineering Mathematics, Engineering Mathematics, Meenakshi Agency Chennai.
7. W.E. Williams, Partial Differential equations, Claredon Press Oxford.
8. M.E.Tayor, Partial Differential equations, Springer Cham Heidelberg New York Dordrecht London.

SEC-II (Open Elective)(Semester-IV)
(CBCS PATTERN)

ANNUAL PATTERN EVALUATION SKILLS
(SECM-II for 2 Credits)

Note:

1. This open elective will opt any students of second year for any descipline.
2. Amongst the following skills students can choose one for third semester.

SKILL-III

- Solving problems in Calculus using Mathematical software like Scilab, MATLAB, Mathematica, Maple etc.

SKILL-IV

- Introduction to symbolic methods and solving problems, using Mathematical software like Scilab, MATLAB, Mathematica, Maple etc.

REFERENCES BOOKS :

1. Rudra Pratap, Getting Started with MATLAB 7, Oxford Unversity Press, (Indian Edition) www.oup.com.
2. Michael Baudin, Introduction to Scilab, Consortium Scilab, 2010.
3. Atlas- automatically turned linear algebra software. http://math-atlas.source.forge.net.
4. Cecill and free software.http://www.cecill.info.
5. The Scilab Consortium, Scilab. http://www.scilab.org.
6. Intel. Intel math Kernel library. http://software.intel.com/en-us/intel-mkl/.
7. Sylvestre Ledru. Different execution modes of Scilab. http://wiki.scilab.org/Different_execution_modes_of_Scilab.
8. Flexdock project.Flexdock project home. http://flexdock.dev.java.net/.

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक ३१ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. २६/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

1. B.Sc.-III Year-Biophysics
2. B.Sc.-III Year-Bioinformatics
3. B.Sc.-III Year-Biotechnology
4. B.Sc.-III Year-Biotechnology (Vocational)
5. B.Sc.-III Year-Botany
6. B.Sc.-III Year-Horticulture
7. B.Sc.-III Year-Agro Chemical Fertilizers
8. B.Sc.-III Year-Analytical Chemistry
9. B.Sc.-III Year-Biochemistry
10. B.Sc.-III Year-Chemistry
11. B.Sc.-III Year-Dyes & Drugs Chemistry
12. B.Sc.-III Year-Industrial Chemistry
13. B.C.A. (Bachelor of Computer Application)-III Year
14. B.I.T. (Bachelor of Information Technology)-III Year
15. B.Sc.-III Year-Computer Science
16. B.Sc.-III Year-Network Technology
17. B.Sc.-III Year-Computer Application (Optional)
18. B.Sc.-III Year-Computer Science (Optional)
19. B.Sc.-III Year-Information Technology (Optional)
20. B.Sc.-III Year-Software Engineering
21. B.Sc.-III Year-Dairy Science
22. B.Sc.-III Year-Electronics
23. B.Sc.-III Year-Environmental Science
24. B.Sc.-III Year-Fishery Science
25. B.Sc.-III Year-Geology
26. B. A./B.Sc.-III Year-Mathematics
27. B.Sc.-III Year-Microbiology
28. B.Sc.-III year Agricultural Microbiology
29. B.Sc.-III Year-Physics
30. B. A./B.Sc.-III Year Statistics
31. B.Sc.-III Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/७५
दिनांक : १२.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग विज्ञान व तंत्रज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

CHOICE BASED CREDIT SYSTEM (CBCS) SEMESTER PATTERN
B.A./B.Sc. (Third Year) (Mathematics)

CURRICULUM

Note:

1. Assessment shall consist of Continuous assessment (CA) and End of Semester Examination (ESE).
2. Weightage for Theory Papers: 80% for ESE and 20% for CA and Weightage for SEC: 50% for ESE and 50% for CA..
3. Workload includes Unit tests.

B.A./B.Sc. (Mathematics) Semester V and VI

Curriculum will be progressively effective from June-2021 Onwards.

Semester	Paper Code and Section	Period per week	Paper No. and Title of the papers	Marks of ESE	Marks of C.A.	Total Marks	Credits
V	DSEM-5 (Section A)	5	Paper-XII Metric Spaces	40	10	50	2
	DSEM-5 (Section B)	5	Paper-XIII Linear Algebra	40	10	50	2
	DSEM-5 (Section C) (Choose Any One of the Following and This Papers are only for B.Sc.)	5	Paper-XIV(A) Operation Research	40	10	50	2
			Paper-XIV(B) Mechanics-I	40	10	50	2
			Paper-XIV(C) Numerical Analysis	40	10	50	2
	SECM-III (Choose any one of the following)	3 (Theory-1 & Practical-2)	SEC-III(A)-Financial Mathematics	25	25	50	2
			SEC- III(B)-Working with PDE's using Mathematical software	25	25	50	2
			SEC-III(C)-LaTeX for Beginners-I	25	25	50	2
VI	DSEM-6 (Section A)	5	Paper-XV Complex Analysis	40	10	50	2
	DSEM-6 (Section B)	5	Paper-XVI Integral Transform	40	10	50	2
	DSEM-6 (Section C) (Choose Any One of the Following and This Papers are only for B.Sc.)	5	Paper-XVII(A) Topology	40	10	50	2
			Paper-XVII(B) Mechanics-II	40	10	50	2
			Paper-XVII(C) Elementary Number Theory	40	10	50	2
	SECM-IV (Choose any one of the following)	3 (Theory-1 & Practical-2)	SEC-IV(A)-Insurance Mathematics	25	25	50	2
			SEC- IV(B)-Solving Problems in Numerical Analysis using Mathematical Software	25	25	50	2
			SEC-IV(C)-LaTeX for Beginners-II	25	25	50	2
Total Marks/Credit				290	110	400	16

B.A./ B.Sc. Third Year Semester-V
(CBCS PATTERN)
DSEM-5, Section-A
Paper XII:Metric Spaces

Course Description: This course gives general introduction to Metric Spaces and gives details Knowledge of open Sets and Closed Sets along with Subspaces, Convergence and Completeness, Compactness with Properties and Connectedness.

Objectives: A Primary Objective of this Course is to learn elementary Knowledge about Metric Spaces, Subspaces, and Elementary properties with Examples, Concepts of convergence and Completeness, Continuity and Uniform continuity, Banach Fixed point Theorem, Compactness and Connectedness.

Outcomes: After successful completion of the course student will be able to

1. Demonstrate an understanding of metric spaces and subspaces by proving unseen results.
2. Produce examples and counterexamples illustrating the mathematical concepts.
3. Understand the concepts of open and closed sets.
4. Understand the concepts and develop skill to check the positions of a point in the space.
5. Understand the concepts of convergences and completeness.
6. Understand the concepts of fixed point and Banach principle.
7. Understand the concepts of continuity and uniform continuity.
8. Understand the concepts of compact and non-compact sets with various properties.
9. Understand the concepts of Lebesgue Number for Covers and connectedness of sets.
10. After completion of this course student can aware with basic concepts of functional analysis.

Unit I:Metric Space:

Definition of Metric Space, Examples of Metric Space, Diameter of a nonempty Set,
Open and Closed Sets: Open and Closed Spheres, Neighbourhood of a Point, Open Sets, Equivalent Metrics, Limit Points, Closed Sets, Subspaces, Closure of a Set, Definition of Interior, Exterior, Frontier and Boundary Point, Dense set, Perfect set, Separable set.

Unit II:Convergence and Completeness:

Cauchy Sequence, Complete Metric Space, Cantor's Intersection Theorem, Baire's Category Theorem.
Continuity and Uniform Continuity: Definitions, Examples, Theorems on Continuity and Uniform Continuity, Banach Fixed Point Theorem.

Unit III:Compactness:

Definitions and Theorems on Compactness, Heine-Borel Theorem, Compactness and Finite Intersection Property, Relative Compactness, ϵ-Nets and Totally Bounded Sets,

Unit IV:Connectedness:

Definition and Theorems on Lebesgue Number for Covers, Separated Sets, Definition and Theorems on Connectedness.

Text Book :
S.C.Malik and Savita Arora, Mathematical Analysis, New Age International (P) Ltd, Second Edition 1992 (Reprint 2014).
Scope:
Unit I:
Chapter 19: Art. 1, 2, 2.1, 2.2, 2.3 (lemma and Theorem 2 Statement only), 2.4, 2.5, 2.6, 2.7, 2.8 (only definitions and examples),2.9(Only Definitions).
Unit-II:
Chapter 19: Art. 3(Theorem 11 and 12 Statement Only), 4 (Theorem 16 statement only), 4.1.
Unit-III:
Chapter 19: Art. 5 (Theorem 21 Statement only), 5.1, 5.2(Theorems 26 to 28 Statements only) .
Unit-IV:
Chapter 19:Art. 5.2(Theorem 29 to 33), 6 (up to Theorem 39 and Example 45).

REFERENCES :

1. R. Goldberg, Methods of Real Analysis, Oxford & IBH Pub. Co.PVT Ltd.
2. Somasundaram & Chaudhary,A First Course in Mathematical Analysis, Narosa Pub. House New Delhi.
3. Shantinarayan & M.D. Raisinghania, Elements of Real Analysis, S. Chand. Co. Ltd.
4. E. T. Copson, Metric Spaces, Cambridge University Press. Universal Book Co. New Delhi.
5. T. M. Apostol, Mathematical Analysis, Narosa Pub. House New Delhi.
6. T. M. Karade, Lecturers on Analysis, Sonu Nilu Pub. Nagpur.
7. U.S.Rana, Mathematics for Degree Students, S.Chand &Company Ltd. New Delhi.

B.A./B.Sc. Third Year Semester-V
(CBCS PATTERN)
DSEM-5, Section-B
Paper XIII: Linear Algebra

Course Description: Linear Algebra has wide range of applications in Physics, Economics, Chemistry And engineering. This course aims to make students become aware of finite Dimensional abstract vector spaces and linear transformations.
Objectives:

1. To make the student to familiar with important concept of vector space such as Independence, basis, dimensions, subspaces, inner products.
2. To enhance the student's ability to reason mathematically.
3. To understand the axiomatic structure of modern mathematical subject.
4. To learn construction of simple proofs.

Outcomes: After successful completion of the course student will be able to

1. Understand and prove algebraic statements about vector spaces, subspaces, basis, Inner product spaces.
2. Determine a basis and the dimension of finite dimensional space.
3. Understand and prove statements about linear transformations.
4. Find the kernel, range, rank and nullity of linear transformation.
5. Determine eigen values and eigen vectors.
6. Interpret a matrix as a representation of linear transformation.

Unit I:Vector spaces:

Vector spaces, Subspaces, Span of a set, More about subspaces, Linear Dependence, Independence.

Unit II:Dimension and Basis:

Dimension and Basis, Definition and Examples of Linear transformations, Range and Kernel of a linear map, Rank and Nullity.

Unit III: Linear transformations:

Inverse of a linear transformation, Consequences of Rank-Nullity theorem, The space $L(U, V)$, composition of linear maps, operator equations.

Unit IV: Matrices:

Matrix associated with a linear map, Linear map associated with a matrix, Linear operators in $M_{m,n}$, Determinants: Eigenvalues, Eigenvectors, More matrix theory: Inner product spaces.

Text Book:
V. Krishnamurthy, V.P. Mainra, J.I Arora, "An introduction to Linear Algebra", Affiliated East-west press PVT. LTD. New Delhi.
Scope:
Unit I:
Chapter 3: art 3.1 to 3.5
Unit-II:
Chapter 3: art 3.6
Chapter 4: art 4.1 to 4.3
Unit-III:
Chapter 4: art 4.4 to 4.8
Unit-IV:
Chapter 5: art 5.1 to 5.3
Chapter 6: art 6.8
Chapter 7: art 7.2

REFERENCES :

1. I. N. Herstein, Topics in Algebra" John Wiley and sons
2. P.B. Bhattacharya, S.K. Jain and S.R. Nagpaul, "First course in Linear Algebra" New age International 1983.
3. Smith, Linear Algebra", Springer-Verlag, New York
4. V.K. Khanna, S.K. Bhambri, "A course in Abstract Algebra", S. Chand publications.
5. K. B. Datta," Matrix and Linear Algebra" Prentice Hall of India PVT. LTD. New Delhi.
6. A. R. Vasishtha, "Linear Algebra" Krishna Prakashan media (p) LTD.

B.Sc. Third Year Semester-V
(CBCS PATTERN)
DSEM-5, Section-C
Paper XIV (A): Operation Research

Course Description: This is an introductory course in operation research. It covers standard topics such as Linear Programming problem: Mathematical Formulation, Graphical solution, Introductory simplex method. Introduction to transportation problem and assignment problem.

Objectives: To impart knowledge in concepts and tools of Operations Research. To understand some mathematical models used in Operations Research like Linear programming, Transportation Problems, Assignment Problem.

Outcomes: After successful completion of the course student will be able to

1. Formulate a given simplified description of a suitable real-world problem as a linear programming.
2. Sketch a graphical representation of a two-dimensional linear programming problem.
3. Solve a two-dimensional linear programming problem graphically
4. Use the simplex method to solve simple linear programming models by hand.
5. Understanding transportation problem and solve simple assignment problems.

Unit I:Linear Programming:

Mathematical Formulation: Introduction, Linear Programming Problem, Mathematical Formulation of the Problem, Illustration on Mathematical Formulation of LPPs.

Unit II:Graphical Solution and Extension:

Introduction, Graphical Solution Method, Some Exceptional Cases, General Linear Programming Problem, Canonical and Standard Forms of L.P.P.

Unit III:Simplex Method:

Introduction, Fundamental Properties of Solution,Computational Procedure, Use of Artificial Variables, Degeneracy in Linear Programming, Solution of Simultaneous Linear Equations,Inverting a Matrix using Simplex Method, Applications of Simplex Method.

Unit IV:Transportation and Assignment Problem:

Transportation Problem: Introduction, LP Formulation of Transportation Problem, Existence of Solution in Transportation Problem.
Assignment Problem: Introduction, Mathematical Formulation of the Problem,Solution Methods of Assignment Method, Specialcases in Assignment Problem, A typical Assignment Problem.

Text Book :
Kanti Swarup, P.K. Gupta and Man Mohan, "Operations Research", Fourteenth Thoroughly Revised Edition, Sultan Chand & Sons. Educational Publishers, New Delhi.

Scope:
Unit I:
Chapter-2: Articles 2.1 to 2.4 (complete),
Unit-II:
Chapter- 3: Art. 3.1 to 3.5.
Unit-III:
Chapter-4: Articles 4.1 to 4.8.(Complete).
Unit-IV:
Chapter-10: Articles 10.1, 10.2, 10.3,
Chapter-11: Articles 11.1 to 11.5.

REFERENCES :

1. Hiller and Lieberman "Introduction to Operation Research", Tata Mc Graw Hill.
2. Hamdy A. Taha "Operation Research an Introduction", Eight Edition Pearson Prentice Hall, Pearson Education Inc.
3. Er. Prem Kumar Gupta, Dr. D. S. Hira "Problems in Operations Research (Principles and solutions)", S. Chand & Company, Ram Nagar, New Delhi.
4. R. K. Gupta, "Operation Research", Krishna Prakashan Media Ltd.
5. J. K. Sharma, "Operation Research: Theory and Applications", Second Edn. 2006, Macmillan India Ltd.

B.Sc. Third Year Semester-V
(CBCS PATTERN)
DSEM-5, Section-C
Paper XIV (B): Mechanics-I (Statics)

Course Description: Mechanics is an important part in Sciences which deals with the motion of a particle. Mechanics(Statics) is a typically first mechanics course taught for Undergraduate Students. Mechanics can be studied under main two topics which are Kinematics concerning the motion of the particle and dynamics concerning the causes of motion. This course deals the primary concepts and derivations of forces acting on a particle , forces acting on a rigid body , work done ,couples , equilibrium conditions of forces and coplanar forces.

Objectives: To learn basic, primary knowledge of motion, force and their relations which is important in Applied Mathematics. Understand the force systems. Understand the concept of motion of particles and rigid bodies.

Outcomes: After successful completion of the course student will be able to

1. Understand concepts of motion, force and its importance in Physical Sciences.
2. After learned this course , Student will be interested in Applied Mathematics.
3. Develop research oriented skills in Applied Mathematics
4. Know the principles of equilibrium of two forces.
5. To realize the forces acting on a particle , forces acting on a rigid body and its derivations.
6. Analyze the equilibrium state of a particle and rigid body.
7. Obtain the equivalent force - couple system of a given system.

Unit I:Forces Acting on a Particle:

Definitions, Law of Parallelogram of Forces, Magnitude and Direction of the Resultant, Deductions, Resultant of Forces, Components and Resolved parts, Algebraic Sum of the Resolved Parts, Magnitude and Direction of the Resultant of any number of Forces.

Unit II:Equilibrium of Forces Acting on a Particle:

Resultant of Parallel Forces, Triangle law of Forces, Converse of the Triangle Law of Forces, Polygon of Forces, Lami's Theorem.

Unit III:Forces Acting on a Rigid Body:

Conditions of Equilibrium of Forces acting on a Particle,Introduction, Moment of a Force, Sum of the Vector Moment of a System of Forces, Sum of the Vector Moments of to like Parallel Forces.

Unit IV:Forces Acting on a Rigid Body:

Couples, Two Couples acting in one Plane upon a Rigid Body, Equivalent Couples, Vector Moment of the Resultant Couple of two Couples acting upon o Rigid Body, System of Forces acting upon a Rigid Body, Conditions of Equilibrium of Forces, Conditions of Equilibrium of Coplanar Forces.

Text Book :
V. Tulsani, T. W.Warhekar, N.N. Saste ,"Mechanics and Differential Geometry", S. Chand & Co.(Pvt.) Ltd. New Delhi,Second Edition.
Scope:
Unit I:
Chapter 1: Art. 1.1 to 1.12.
Unit-II:
Chapter 1: Art.1.13 to 1.17 ,
Chapter 2:Art. 2.1 to 2.4.
Unit-III:
Chapter 2:Art. 2.5,
Chapter 3: Art. 3.1 to 3.4.
Unit-IV:
Chapter 3: Art. 3.5 to 3.12.

REFERENCES :

1. B.R. Thakur and G.P. Shrivastav, "Mechanics", Ram Prasad and Sons, Agra-3, New Edition, New Delhi.

2. Shanti Narayan, "Mechanics" S. Chand and Co.

3. S. L. Loney, "An elementary Treatise on Dynamics Particle and Rigid Bodies", A.I.T.B.S. Publishers and Distributers 2003, New Delhi.

4. S. L. Loney, "An elementary Treatise on Statics", A.I.T.B.S. Publishers and Distributers 2004, New Delhi.

B.Sc. Third Year Semester-V
(CBCS PATTERN)
DSEM-5, Section-C
Paper XIV(C):Numerical Analysis

Course Description: This course provides an elementary knowledge of calculus of finite differences, interpolation with equal intervals, interpolation with unequal intervals, central difference interpolation formulae, numerical differentiation, numerical quadrature and numerical solution of ordinary differential equations

Objectives: A primary objective of the course is to learn Interpolation under certain assumptions, Numerical Differentiation, Numerical Integration, Numerical Solution of Ordinary Differential Equations

Outcomes: After successful completion of the course student will be able to

1. Estimate the value of a function under certain assumptions.
2. Find the missing terms in the given data using numerical techniques.
3. Apply numerical derivation and numerical integration methods.
4. Investigate numerical solutions of differential equations.
5. Find the integration of a functions using numerical methods.
6. Find the solutions of ordinary differential equations.

Unit I:Finite Differences and Interpolation:

Finite Differences: Introduction, Differences, Theorem, Factorial Notation, Factorial Function, Representation of a given Polynomial, The operator E and Δ, The operators D and ∇ and their relation, Interpolation: Interpolation with equal intervals, Newton-Gregory formula for forward interpolation, Newton-Gregory formula for backward interpolation,

Unit II:Interpolation with unequal intervals:

Equidistant terms with one or more missing terms, Interpolation with unequal intervals: Introduction, Divided differences with unequal arguments, Divided differences when two or more arguments are same or coincident, Properties of divided differences (Theorem 4 statement only), Newton's formula for unequal intervals, Lagrange's interpolation formula for unequal intervals, Lagrange's interpolation formula for equal intervals

Unit III:Central Differences and Numerical Differentiation:

Central Difference Interpolation Formulae: Introduction, Operators Δ, ∇,δ, σ and μ, Gauss's central difference formula, Stirling's formula, Bessel's formula, Numerical Differentiation: Introduction, Use of central difference interpolation formulae in obtaining the derivative(s) of an interpolating polynomial, Approximate expressions for the derivative of a function

Unit IV:Applications

Numerical Quadrature or Numerical Integration: Introduction, A general quadrature formula for equidistant ordinates, Some important approximate quadrature formulae, The Trapezoidal rule, Simpson's one third rule, Simpson's three eighth rule, Weddle's rule, Numerical Solution of Ordinary Differential Equations: Introduction, Equations of the first order, Euler's method, Euler's modified method, Picard's method of successive approximations, Taylor's series method

Text Book :
H.C. Saxena, Finite Differences and Numerical Analysis, S. Chand & Co.reprint 2001.

Scope:
Unit I:
Chapter 1 : 1.1, 1.2, 1.3, 1.5.1, 1.5.3, 1.5.4, 1.6, 1.6.1, 1.6.2, 1.7.1, 1.8, 1.8.1, 1.8.2 .
Unit-II:
Chapter 1 : 1.8.3
Chapter 2 : 2.1, 2.2, 2.2.1, 2.2.2 (Theorem 4 statement only), 2.3, 2.4.1, 2.4.2
Unit-III:
Chapter 3 : 3.1, 3.2, 3.3, 3.4, 3.5
Chapter 5 : 5.1, 5.2, 5.3
Unit-IV:
Chapter 6 : 6.1, 6.2, 6.3, 6.3.1, 6.3.3, 6.3.4, 6.3.5
Chapter 16 : 16.1, 16.2, 16.2.1, 16.2.2, 16.2.3, 16.2.4(a).

REFERENCES :

1. S.S. Sastry, "Introductory Methods of Numerical Analysis" Prentice-Hall of India Private Ltd. (Second Edition) 1997.

2. E.V. Krishnamurthi & Sen, "Numerical Algorithm", Affiliate East, West press Private Limited 1986.

3. M.K. Jain, SRK Iyengar, R.K. Jain, "Numerical Methods for Scientific and Engineering Computations", New Age International Limited

Third Year (Semester-V)
(CBCS PATTERN)

ANNUAL PATTERN EVALUATION SKILLS
(SECM-3 for 2 Credits)
Note: Amongst the following skills students can choose one for fifth semester

SKILL-III(A)

- **Financial Mathematics** (The measurement of interest): Introduction, The accumulation and amount functions, The effective rate of interest, Simple interest, Compound interest, Present value, The effective rate of discount, Nominal rates of interest and discount, Forces of interest and discount, Varying interest, Summary of results.

SKILL-III(B)

- Working with Partial Differential Equations using Mathematical Software like Matlab, Mapple, Scilab and other software.

SKILL-III(C)

- **LaTeX for Beginners-I**

Latex Installation:

- Introduction to LaTeX and Installation
- Structure and preparation of basic document

Document class:

- Changing the class (article, report) and document options
- Sectioning and sub sectioning

Text Formatting:

- Lists, Font size and display
- Special characters, Foot note.

Math mode and graphics:

- Mathematical Formulas
- Exponents and Subscripts
- Fractions, Sums
- Integrals, and Limits
- Roots
- Text in Math Displays
- Operators

- Relations
- Negated Symbols
- Mathematical equation and their labeling and referring
- Greek letters
- Working with image
- Giving caption and label

REFERENCES BOOKS :

1. Kellison Stephen G., The Theory of Interest, 3rd Edition. McGraw-Hill International Edition (2009).
2. UK Institute of Actuaries core leading for the subject CT1-Financial Mathematics.
3. Elliott R.J. and Kopp P.E. Mathematics of Financial Markets. Springer (1999).
4. Rudra Pratap, Getting Started with MATLAB 7, Oxford Unversity Press, (Indian Edition) www.oup.com.
5. Michael Baudin, Introduction to Scilab, Consortium Scilab (2010).
6. Atlas- automatically turned linear algebra software. http://math-atlas.source.forge.net.
7. Cecill and free software.http://www.cecill.info.
8. The Scilab Consortium, Scilab. http://www.scilab.org.
9. Intel. Intel math Kernel library. http://software.intel.com/en-us/intel-mkl/.
10. Sylvestre Ledru. Different execution modes of Scilab. http://wiki.scilab.org/Different_execution_modes_of_Scilab.
11. Flexdock project.Flexdock project home. http://flexdock.dev.java.net/.
12. Leslie Lamport, LaTeX a Document Preparation System User's Guide and Reference Manual, Addison-Wesley Publishing Company.
13. Online LaTeX Editor https://www.overleaf.com/

B.A./B.Sc. Third Year Semester-VI
(CBCS PATTERN)
DSEM-6, Section-A
Paper-XV: Complex Analysis

Course Description: This course is intended to introduce some fundamental ideas of complex analysis. The concept of algebraic and geometric structure of complex numbers, analyticity, harmonic functions, Cauchy integral and Liouville's theorem, Taylor and Laurent's series are introduced.

Objectives: To develop clear understanding of basic concept of functions of complex variable, understand and learn to use argument principle, study the analytic and elementary functions of complex variables and develop manipulation skill in the use of complex numbers.
Outcomes: After successful completion of the course student will be able to

1. Operate basic mathematical operations with complex numbers in Cartesian and polar forms.
2. Demonstrate the ability of limit, continuity, analyticity of a function.
3. Find the derivative and integral of a complex variable function.
4. Work with exponential and logarithmic functions.
5. Use Cauchy integral theorem and Liouville's theorem.
6. Use Taylor and Laurent's series.

Unit I:Complex Numbers and Analytic functions:

Complex Numbers: Exponential form, Roots of complex numbers, Regions in the complex plane, Analytic functions: Functions of complex variables, Mappings, Mappings by the exponential Function, Limits, Theorems on limits, Limit involving, The point at infinity, Continuity, Derivatives, Differentiation formulae.

Unit II:Elementary functions:

Analytic functions: Cauchy- Riemann equations, Sufficient conditions for derivability, polar co-ordinates, Analytic functions,Harmonic functions, Elementary functions:The exponential functions, The logarithmic functions, Branches and Derivatives of logarithms, Some identities involving logarithms, Complex exponents.

Unit III:Integrals:

Integrals: Derivatives of functions w(t), Definite integrals of functions $w(t)$, Contours, Contour Integrals, Upper bounds for moduli of contour integrals, Antiderivatives, Simply and Multiply connected domains,

Unit IV:Integrals and Series:

Integrals: Cauchy integral formula, Derivatives of analytic functions, Liouville's theorem and the Fundamental theorem of algebra, Series: Convergence of sequences, Convergence

of series, Taylor series, Laurent series.

Text Book :
J W. Brown and R.V. Churchill, "Complex variables and Applications", International Students' edition 2009, 7th edition.
Scope:
Unit I:
Chapter 1: art 6, 8 to 10
Chapter 2: art 11 to 19
Unit-II:
Chapter 2: art 20 to 25
Chapter 3: art 28 to 32
Unit-III:
Chapter 4: art 36 to 42.
Unit-IV:
Chapter 4: art 46 to 49
Chapter 5: 51 to 56

REFERENCES :

1. S. Punnusamy," Complex Analysis". Narosa Publishing house, 2nd edition.
2. Lang, "Complex Analysis", Springer Verlag.
3. A.R.Shastri," An introduction to Complex Analysis", Macmillan.
4. H.S. Kasana," Complex Variables" PHI Learning PVT. limited New Delhi.
5. M.R.Spiege, S. Lipschut, J.J. Schiller, D. Spellman,"Complex Variables", Schaum's Outlines, Tata McGraw Hill education Private Limited New Delhi.

B.A./B.Sc. Third Year Semester-VI
(CBCS PATTERN)
DSEM-6, Section-B
Paper XVI: Integral Transforms

Course Description: This course gives general introduction to Integral Transforms and gives detail knowledge of Laplace Transforms along with their inverse Transforms, Fourier Complex Transforms, Fourier Sine Transforms and Fourier Cosine Transforms.
Objectives: A primary objective of this course is to get introduced to Integral Transforms, study some of them in details along with their properties and applications.
Outcomes: After successful completion of the course student will be able to

1. Understand the concept of Integral Transforms
2. Identify integral transforms by their integration limits and kernels
3. Obtain integral transforms of functions
4. Know the formulae for integral transforms of standard functions
5. Understand various properties of integral transforms
6. Apply the integral transforms for evaluating integrals
7. Apply the integral transforms along with their inversion formulae for solving differential equations with initial conditions
8. Apply the integral transforms along with their inversion formulae for solving systems of simultaneous differential equations with initial conditions

Unit I: Laplace Transformations:

Introduction, Laplace Transform, Important Formulae, Properties of Laplace Transforms, Laplace Transform of the Derivative of $f(t)$, Laplace Transform of the Derivative of Order n, Laplace Transform of Integral of $f(t)$, Laplace Transform of $t.f(t)$ (Multiplication by t), Laplace Transform of $\frac{1}{t}f(t)$ (Division by t), Unit Step Function, Second Shifting Theorem, Impulse Function, Periodic Functions, Convolution Theorem, Evaluation of Integrals, Formulae of Laplace Transform, Properties of Laplace Transform.

Unit II: Inverse Laplace Transforms:

Inverse Laplace Transforms, Important Formulae, Multiplication by s, Division by s (Multiplication by 1/s), First Shifting Property, Second Shifting Property, Inverse Laplace Transforms of Derivatives, Inverse Laplace Transform of Integrals, Partial Fractions Method, Inverse Laplace Transform by Convolution.

Unit III: Solutions of Differential Equations and Integral Transforms

Solution of Differential Equations by Laplace Transforms, Solution of Simultaneous Differential Equations by Laplace Transforms, Introduction to Integral Transforms

Unit IV: Fourier Transforms

Fourier Integral Theorem, Fourier Sine and Cosine Integrals, Fourier's Complex Integral, Fourier Transforms, Fourier Sine and Cosine Transforms, Properties of Fourier Transforms.

Text Book 1:
H.K.Dass, "Advanced Engineering Mathematics", S. Chand & Company Ltd.
Scope:
Unit I:
Chapter 13 : Articles 13.1 to 13.19
Unit-II:
Chapter 13 : Articles 13.20 to 13.29
Unit-III:
Chapter 13 : Articles 13.30 to 13.31,
Chapter 14 : Articles 14.1 to 14.2
Unit-IV:
Chapter 14 : Articles 14.3 to 14.8

REFERENCES :

1. Grove A. C., "An Introduction to Laplace Transforms and Z- Transforms", Prentice Hall 1991.
2. Doetsch G., "Introduction to Theory and Application of Laplace Transforms", Springer Verlag, 1990.
3. Murray Spigel, "Schaum Outline of Laplace Transforms", Schaum Outline Series, Mc-Graw Hill 2012.
4. Joel L. Schiff, "The Laplace Transforms: Theory and Applications", Springer, 2008.
5. 5. R.J. Becrends, H.G. Morsche J.C. Vande Berg and E.M. Vande Vrie, "Fourier and Laplace Transform", Cambridge Press, 2003.

B.Sc. Third Year Semester-VI
(CBCS PATTERN)
DSEM-6, Section-C
Paper XVII(A): Topology

Course Description: The concepts of topological space grew out the study of real line and Euclidean spaces also, the study of continuous functions on these spaces. This course gives introduction to topological spaces, and the number of ways to construct the topological spaces. Also this course deals with the concepts of open and closed sets, limit points, and continuous function, basic aspects of connected and compact spaces.

Objectives: Primary objective is to provide an elementary Knowledge about Elementary properties of Set theory. Basic concept of Topology, Basis of a topology, Order topology, Product topology, Subspace topology, Closed sets, Limit points, Continuity of a function, Hausdroff Space, Connected sets and compact sets.

Outcomes: After successful completion of the course student will be able to

1. Understand Concept of Topological spaces.
2. Understand Topological Properties of Sets.
3. Understand the concept of order Topology and product topology.
4. Understand concept of Subspace topology.
5. Understand Concept of Closed and Open sets, limit points.
6. Understand of continuity, Concept of Homeomorphisms, Imbedding's.
7. Understand the separation properties like Hausdroff Spaces and T1 Axioms.
8. Understand basic Concept of Connected Spaces and compact Spaces.
9. Understand Utility of Connected and compactness.

Unit I:Set Theory and Logic:

Set Theory and Logic: Fundamental Concepts, Functions, Relations, The Integers and the Real Numbers, Cartesian Product, Finite Sets, Well-ordering Theorem, Topological Spaces and Continuous Functions: Topological Spaces, Basis for Topology. .

Unit II:Topological Spaces and Continuous Functions:

Topological Spaces and Continuous Functions: The Order Topology, The Product Topology, The Subspace Topology.

Unit III:Hausdroff Spaces:

Topological Spaces and Continuous Functions: Closed Sets and Limit Points, Closure and Interior of a Set, Limit Points,Hausdroff Spaces.

Unit IV:Connectedness and Compactness:

Connectedness and Compactness : Connectedness(Definition , Examples and Basic Results) and Compactness (Definition , Examples and Basic Results)

Text Book 1:
R. Munkres, "Topology: A First Course", Prentice Hall of India.
Scope:
Unit I:
Chapter 1: Art. 1.1 to 1.6, Art. 1.7 (Statements of Theorems), Art. 1.10
Chapter 2: Art. 2.1, 2.2.
Unit-II:
Chapter 2: Art. 2.3, 2.4, 2.5.
Unit-III:
Chapter 2: Art. 2.6, 2.7, 2.8 (Definitions Only)
Unit-IV:
Chapter 3: Art. 3.1,3.5 (Definitions and Examples, Lemma 1,2, Theorems1,2,3,4 ,5,6) (All other theorems and Results are Statements only)

REFERENCES :

1. John Horvath, "Topological Vector Spaces & Distribution", Addison-Wesely, Publishing Company 1966.
2. F. Treves, "Topological Vector spaces, Distribution, Kernel", Academic Press, Inc., New York, 1967.
3. G. Kothe, "Topological Vector spaces", Vol.1, Springer, New York, 1969.
4. R. Larsen, "Functional Analysis", Marcel Dekker, Inc., New York, 1973.
5. Walter Rudin, "Functional Analysis", TMH edition, 1974.

B.Sc. Third Year Semester-VI
(CBCS PATTERN)
DSEM-6, Section-C
Paper XVII (B): Mechanics-II (Dynamics)

Course Description: Mechanics can be studied under main two topics which are Kinematics concerning the motion of the particle and dynamics concerning the causes of motion. This course deals the Kinematics and Dynamics of a Particle in Two Dimensions , Kinetics of a Particle, Motion of a Projectile and Motion in Resisting Medium.

Objectives: To learn basic knowledge of displacement ,velocity and acceleration and their relations. Understand the motion of a projectile and in Resisting Medium. To deals the Newton's Laws of Motion and its important deductions. The concepts of Matter, Mass, Weight, Linear Momentum, Moment of Momentum, Work, Power and Energy and their derivations.

Outcomes: After successful completion of the course student will be able to

1. Understand Newton's Laws of Motion and its importance in Physical Sciences.
2. Develop research oriented skills in Applied Mathematics.
3. Understand the expressions for Velocity and Acceleration, Components of Velocity and Acceleration and principles of equilibrium of two forces.
4. To realize the forces acting on a particle , forces acting on a rigid body and its derivations.
5. Analyze the Impulsive Force and its Impulse, Conservation of Linear Momentum and , Impact of two bodies.
6. Find the Motion of Projectile and Derivation of Equation of its trajectory, Cartesian Equation of the path of Projectile, equivalent force - couple system of a given system.

Unit I: Kinematics and Dynamics of a Particle in Two Dimensions

Introduction, Definitions, Expressions for Velocity and Acceleration, Components of Velocity and Acceleration, Tangent and Unit Vector along the Tangent, Curvature and Principal normal, Tangential and Normal Components of Velocity and Acceleration, Angular Speed and Angular Velocity, Angular Acceleration, Radial and Transverse directions, Radial and Transverse Components of Velocity and Acceleration.

Unit II:Kinetics of a Particle:

Introduction, Newton's Laws of Motion, Deductions from Newton's Laws of Motion, Matter, Mass, Weight, Linear Momentum, Moment of Momentum or Angular Momentum, Impulsive Force and its Impulse, Conservation of Linear Momentum, Impact of two bodies, Work, Power, Energy.

Unit III:Motion of a Projectile and Motion in Resisting Medium:

Scalar Point Function and Scalar Field, Vector Point Function and Vector Field, Field of Force, Conservative Field of Force, Potential Function. Rectilinear Motion, Motion under

gravity.

Unit IV:Motion of a Projectile and Motion in Resisting Medium
LMotion of Projectile and Derivation of Equation of its trajectory, Cartesian Equation of the path of Projectile, Vertex and Latus rectum of the Parabola, Velocity of a Particle in terms of its height, Range on an inclined Plane, Projectile to pass through a given Point, Relation $t_1 t_2 = 2R/g$.

Text Book :
V. Tulsani, T. W.Warhekar, N.N. Saste ,"Mechanics and Differential Geometry", S. Chand & Co.(Pvt.) Ltd. New Delhi,Second Edition.

Scope:
Unit I:
Chap. 1: Art. 1.01 to 1.13
Unit-II:
Chap. 2: Art. 2.01 to 2.17.
Unit-III:
Chap. 2: Art. 2.18 to 2.25,
Chap. 3: Art. 3.01 to 3.02.
Unit-IV:
Chapter 3: Art. 3.03 to 3.10, 3.13,3.14.

REFERENCES :

1. A. Baker, "A concise Introduction to the Theory of Numbers", Cambridge University press, 1984.
2. J. P. Serre, "A course in Arithmetic-GTM Vol 7", Springer Verlag, 1973.
3. Tom M Apostol," Introduction to Analytic Number Theory", Norosa Publishing House, 1980.
4. I Niven and Zuckerman," An Introduction to the Theory of Numbers", Wiley, New York, 4th edition 1980.
5. Rosen K. H," Elementary Number theory and its application", Pearson Addition Wesely, 5th edition.

B.Sc. Third Year Semester-VI
(CBCS PATTERN)
DSEM-6, Section-C
Paper XVII(C):Elementary Number Theory

Course Description: This is an introductory course in Number Theory. It covers standard topics such as Mathematical induction, divisibility, prime numbers, Diophantine equations, congruences.

Objectives: To present some basic ideas of Number Theory using definitions, examples, conjectures, Theorems and their proofs.

Outcomes: After successful completion of the course student will be able to

1. Apply different methods of proofs including induction, contradiction, counter examples to verify mathematical assertions.
2. Explain basic concepts like divisibility, greatest common divisor, congruences, linear congruences.
3. Solve systems of Diophantine equations using the Euclidean algorithm and Chinese remainder theorem
4. Demonstrate knowledge and understanding of prime numbers.
5. Use Fermat's theorem and Wilson's theorem.

Unit I:Divisibility Theory in the Integers:

Mathematical induction, The division algorithm, The greatest common divisor, The Euclidean algorithm.

Unit II:Prime Numbers and properties:

The Diophantine equation, The fundamental theorem of arithmetic, The sieve of Eratosthenes.

Unit III:The Theory of Congruences:

The Goldbach conjecture, Basic properties of congruence, Binary and decimal representation of integers.

Unit IV:Fermats Theorem:

Linear congruences and the Chinese remainder theorem, Fermat's little theorem and Pseudoprimes, Wilson's theorem.

Text Book :
David M. Burton, "Elementary Number Theory", McGraw Hill Education (India). Private limited, 7th edition.

Scope:
Unit I:

Chapter 1: art 1.1
Chapter 2: art 2.2,2.3,2.4
Unit-II:
Chapter 2: art 2.5
Chapter 3: art 3.1,3.2
Unit-III:
Chapter 3: art 3.3
Chapter 4: art 4.2,4.3
Unit-IV:
Chapter 4: art 4.4
Chapter 5: art 5.2,5.3

REFERENCES :

1. A. Baker, "A concise Introduction to the Theory of Numbers", Cambridge University press, 1984.

2. J. P. Serre, "A course in Arithmetic-GTM Vol 7", Springer Verlag, 1973.

3. Tom M Apostol," Introduction to Analytic Number Theory", Norosa Publishing House, 1980.

4. I Niven and Zuckerman," An Introduction to the Theory of Numbers", Wiley, New York, 4th edition 1980.

5. Rosen K. H," Elementary Number theory and its application", Pearson Addition Wesely, 5th edition.

Third Year (Semester-VI)
(CBCS PATTERN)

ANNUAL PATTERN EVALUATION SKILLS
(SECM-4 for 2 Credits)
Note: Amongst the following skills students can choose one for the sixth semester

SKILL-IV(A)

- **Insurance Mathematics** (Basic annuities): Introduction, Annuity-immediate, Annuity-due, Annuity values on any date, Perpetuities, Unknown time, Unknown rate of interest, Varying interest, Annuities not involving compound interest.

SKILL-IV(B)

- Solving problems in Numerical Analysis using Mathematical Software like Matlab, Mapple, Scilab and other software

SKILL-IV(C)

- **LaTeX for Beginners-II**

Tables, Arrays, and Lists

- Constructing Arrays
- Constructing Tables
- Constructing Lists

Theorems

- Basic theorems and proofs
- Theorem counters
- Theorem styles

Referencing

- Bibliography and citation

Journal Articles/Reports

- Preparing research papers and project reports

Presentations in Latex

- Brief introduction to beamer
- Presentation using beamer class

REFERENCES BOOKS :

1. Kellison Stephen G., The Theory of Interest, 3rd Edition. McGraw-Hill International Edition (2009).
2. UK Institute of Actuaries core leading for the subject CT1-Financial Mathematics.

3. Elliott R.J. and Kopp P.E. Mathematics of Financial Markets. Springer (1999).

4. Rudra Pratap, Getting Started with MATLAB 7, Oxford Unversity Press, (Indian Edition) www.oup.com.

5. Michael Baudin, Introduction to Scilab, Consortium Scilab, 2010.

6. Atlas- automatically turned linear algebra software. http://math-atlas.source.forge.net.

7. Cecill and free software.http://www.cecill.info.

8. The Scilab Consortium, Scilab. http://www.scilab.org.

9. Intel. Intel math Kernel library. http://software.intel.com/en-us/intel-mkl/.

10. Sylvestre Ledru. Different execution modes of Scilab. http://wiki.scilab.org/Different_execution_modes_of_Scilab.

11. Flexdock project.Flexdock project home. http://flexdock.dev.java.net/.

12. Leslie Lamport, LaTeX a Document Preparation System User's Guide and Reference Manual, Addison-Wesley Publishing Company.

13. Online LaTeX Editor https://www.overleaf.com/

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR
ACADEMIC (1-BOARD OF STUDIES) SECTION
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ०८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.११/४४–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

1. Agricultural Microbiology
2. Agrochemicals & Fertilizers
3. Analytical Chemistry
4. B.C.A.
5. B.Voc. (Food Processing, Preservation and Storage)
6. B.Voc. (Web Printing Technology)
7. Biochemistry
8. Bioinformatics
9. Biophysics
10. Biotechnology (Vocational)
11. Biotechonology
12. Botany
13. Chemistry
14. Computer Application (Optional)
15. Computer Science (Optional)
16. Computer Science
17. Dairy Science
18. Dyes and Drugs
19. Electronics
20. Environmental Science
21. Fishery Science
22. Food Science
23. Geology
24. Horticulture
25. Industrial Chemistry
26. Information Technology (Optional)
27. Mathematics
28. Microbiology
29. Network Technology
30. Physics
31. Software Engineering
32. Statistics
33. Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/२९२
दिनांक : ०३.०७.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

CHOICE BASED CREDIT SYSTEM (CBCS) SEMESTER PATTERN FACULTY OF SCIENCE B.A./B.Sc. (Mathematics)

CURRICULUM

Note:

1. Assessment shall consist of Continuous assessment (CA) and End of Semester Examination (ESE).
2. Weightage: 80% for ESE & 20% for CA.
3. First/Second Semester consists of Two Theory Papers each of 50 marks [40ESE + 10 CA] and One Lab Course 100 marks.
4. Workload includes Unit tests.

B.A./B.Sc. (Mathematics) Semester I and II
Curriculum will be progressively effective from June-2019 Onwards.

Semester	Section and Paper Code	Period per week	Paper No. and Title of the papers	Marks of Semester	Internal C.A.	Total Marks	Credits
I	CCM-1 Section A	4	Paper -I Calculus-I	40	10	50	2
	CCM-1 Section B	4	Paper-II Algebra and Trigonometry	40	10	50	2
II	CCM-2 Section A	4	Paper -III Calculus-II	40	10	50	2
	CCM-2 Section B	4	Paper-IV Geometry	40	10	50	2
Lab Course work (Annual Pattern Practical)	CCMP-1 Based on CCM1 and CCM2	2	Paper-V Practical On MATLAB only for B.Sc. Students	80	20	100	4
Total Credit							12

B.A. / B.Sc.F.Y. Semester-I
(CBCS PATTERN)
CCM-1, Section-A
Paper I: Calculus-I (Differential Calculus)

Course Description: This course provides an elementary knowledge of Limit, Continuity, Differentiation, higher order Derivatives, Expansion of functions, Equation of Tangent and Normal, Mean Value Theorem, Partial Differentiation.

Objectives: A primary objective of the course is to learn elementary knowledge of Differential Calculus

Outcomes: After successful completion of the course student will be able to

1. Understanding concept of Limit, Continuity of Single and two variable Functions.
2. Find the Higher order derivatives of Product of Functions
3. Expand functions in terms of infinite series.
4. Find Equation of Tangent, Normal and Length of Tangent, Normal, Sub-tangent, Sub-normal.
5. Understanding of Mean Value Theorem concepts.
6. Understand the concept of Partial differentiation.
7. Use the results to solve problems.
8. Differentiate difference between derivative of single variable and two variables.

Unit-I: Differentiation

Derivability and derivative, derived function, derivability implying continuity, geometrical interpretation of a derivative, derivatives of hyperbolic functions, derivatives of inverse hyperbolic functions, Higher order derivatives, calculation of the nth derivative, determination of nth derivative of rational functions, nth derivatives of the products of the powers of sines and cosines, Leibnitz theorem.

Unit-II: Expansion of functions, Tangents and Normals

Maclaurin's theorem, Taylor's theorem, Equations of the tangent and normal, Angle of intersection of two curves, length of the tangent, normal, sub-tangent, sub-normal, pedal equations.

Unit-III: Mean Value Theorems

Rolle's Theorem, Lagrange's mean value theorem, Meaning of sign of derivative, Graphs of hyperbolic functions, Cauchy's mean value theorem, Generalized mean value theorems (Taylor's theorem, Maclaurin's theorem).

Unit-IV: Partial Differentiations

Introduction, Functions of two variables, Neighborhood of a point (a,b), Limit and Continuity, Partial derivatives, Geometrical Interpretation, Homogeneous functions, Euler's Theorem on homogeneous function and corollary, Theorems on total differentials, Equality of $f_{xy}(a,b)$ and $f_{yx}(a,b)$, Equality of f_{xy}andf_{yx}, Taylors theorem for functions of two variables (Only Statement).

Text Book 1:
Differential Calculus by Shanti Narayan and Dr. P. K. Mittal, S. Chand and Co. Ltd. Revised Edition 2012 (Reprint 2013).
Scope:
Unit I: Chapter 4: 4.1, 4.1.1 to 4.1.5, 4.7, 4.7.1, 4.7.2, Chapter 5: 5.1 to 5.5.
Unit-II: Chapter 6: 6.1, 6.2, Chapter 7: 7.1, 7.2, 7.2.1, 7.2.2, 7.3 to 7.5.
Unit-III: Chapter 8: 8.1 to 8.3, 8.3.1 to 8.3.3, 8.4 to 8.6, 8.6.1.
Unit-IV: Chapter 11: 11.1 to 11.5, 11.6, 11.7, 11.7.1, 11.8, 11.8.1, 11.9, 11.9.1, 11.10, 11.10.1, 11.11,11.11.1.

REFERENCES :

1. Differential Calculus by Shanti Narayan, S. Chand and Co. Ltd.
2. Text book on Differential Calculus by Gorakh Prasad, Pothishala Private limited Allahabad
3. Calculus , Schaum's outline series by Ayres F.Mc Graw Hill,1981
4. Differential calculus by Edwards J., Mac Millan and Co. Ltd
5. Introduction to Calculus by Green Span D. , Harper and Row.
6. Lectures on Calculus and Differential Equations by T M Karade and M S Bendre, Sonu Nilu Bandu, Nagpur.
7. Theory and Problems on Advance Calculus by Murray and R.. Spiegel ,Schaum Pub. Co. New York
8. Advanced Calculus by G.P. Shrivastav, Hari Kishan, Nagendra Kumar, Ram Prasad and sons pub.

B.A/B.Sc.F.Y. Semester-I
(CBCS PATTERN)
CCM-1,(Section B)
Paper II: Algebra and Trigonometry

Course Description: This course provides an elementary knowledge of Matrix, Types of Matrices, Adjoint of a Square Matrix, Rank of a Matrix, Linear Equations, Characteristic Roots and Characteristic Vectors, Trigonometry, and Complex Quantities.
Objectives: A primary objective of the course is to learn elementary knowledge of Matrices, Complex Numbers, and Trigonometry.
Outcomes: After successful completion of the course student will be able to

1. Add, Subtract and Multiply two Matrices.
2. Recognize the different types of Matrices.
3. Find the Inverse of invertible Matrices.
4. Determine the Rank of a Matrix.
5. Transform matrix to Row Echelon form
6. Solve the System of Linear Equations.
7. Find the Characteristic Roots and Characteristic Vectors of a Square Matrix.
8. Check that every square matrix satisfies its own Characteristic Polynomial.

Unit-I: Matrices

Matrix, Different Types of Matrices, Equality of Matrices, Addition (Sum) of Two Matrices, Properties of Matrix Addition, Subtraction of Two Matrices, Multiplication of a Matrix by a Scalar, Properties of Multiplication of a Matrix by a Scalar, Multiplication of Two Matrices, Properties of Matrix Multiplication, Positive Integral Powers of a Matrix, Transpose of a Matrix, Conjugate of a Matrix, Transposed Conjugate of a Matrix, Determinant of a Square Matrix, Minor of an Element, Co-factor of an Element, Adjoint of a Square Matrix, Inverse of a Square Matrix, Singular and Non-singular Matrix, Orthogonal Matrices, The Determinant of an Orthogonal Matrix, Unitary Matrix.

Unit-II: Rank of a Matrix

Minor of Order k of a Matrix, Rank of a Matrix, Elementary Row and Column Operations, Elementary Operations, The Inverse of an Elementary Operation, Row and Column Equivalent, Equivalent Matrices, Working Procedure for Finding Rank Using Elementary Operations, Row- Echelon Matrix, Row Rank and Column Rank of a Matrix.

Unit-III: Linear Equations

Linear Equations, Equivalent Systems, System of Homogeneous Equations. Characteristic Roots and Characteristic Vectors : Definitions, To Find Characteristic Vectors, Cayley-Hamilton Theorem (Statement Only)

Unit-IV: Trigonometry

Complex Quantities, DeMoivre's Theorem, Expansions of $sinn\theta$ and $cosn\theta$, Expansions of the sine and cosine of an Angle in Series of Ascending Powers of the Angle, Expansions of the sines and cosines of Multiple Angles, and of Powers of sines and cosines, Exponential Series for Complex Quantities, Circular Functions for Complex Angles, Hyperbolic Functions, Inverse Circular Functions, Inverse Hyperbolic Functions.

Text Book 1:
Topics in Algebra by Om P. Chug, Kulbhushan Prakash, A.D.Gupta, Anmol Publications Pvt. Ltd., New Delhi (First Edition 1997)
Scope:
Unit I: Chapter 10: 10.1 to 10.17 (10.13, 10.15, 10.17 Only Statements), 10.20 to 10.22, 10.27 to 10.32, 10.34 to 39 (10.39 Only Statements)
Unit II : Chapter 11 : Art 11.1, 11.2, 11.5 to 11.16.
Unit-III: Chapter-11: 11.32 to 11.39, Chapter 12 : Art 12.1 to 12.3, 12.18 (Only Statement)
Text Book 2: Plane Trigonometry Part II by S.L.Loney, A.I.T.B.S. Publishers and Distributors, Delhi (Reprint 2003)
Unit-IV: Art. 17, 18 19, 21, 22, 27, 32, 33, 42, 43, 44, 45, 46, 47, 56, 57, 58, 59, 60, 61, 62, 63, 67, 68, 69, 71, 73, 74, 76, 77, 79.

REFERENCE BOOKS :

1. A Text Book of Matrices by Shanti Narayan (S.Chand and Company Ltd., New Delhi).
2. Matrices by A.R.Vasishtha Krishna Prakashan Media (P) Ltd., Meerut.
3. First Course in Linear Algebra by P.B.Bhattacharya, S.K.Jain, S.R.Nagpaul (New Age International (P) Limited Publishers).
4. Elementary Topics in Algebra by K. Khurana and S.B. Malik, Vikas Publishing House Pvt. Ltd., New Delhi.
5. Higher Trigonometry by B. C. Das and B. N. Mukherjee, U.N.Dhur and Sons Private Ltd. Kolkata.
6. Arihant Trigonometry by Amit M. Agrawal (Arihant Publication Pvt. Ltd).
7. Lectures on Algebra and Trigonometry by T M Karade and M S Bendre, Sonu Nilu Bandu ,Nagpur.
8. Text Book on Trigonometry by R S Verma and K. S. Shukl;a,, Pothishala Private limited pub.
9. Text Book on Algebra and Theory Of Equations by Chandrika Prasad, Pothishala Private limited pub.

B.Sc.F.Y. Semester-II
(CBCS PATTERN)
CCM-2, Section-A
Paper III: Calculus-II (Integral Calculus)

Course Description: This course provides the methods of finding integration, concept of integral and Its applications to find Area and Volume.
Objectives: The main objective of the course is to study methods of finding Integration of Algebraic Rational Functions, Irrational Algebraic Functions, Transcendental Functions, Study Gamma and Beta Functions, Multiple Integral and Applications of integration to find Area and Volume.
Outcomes: After successful completion of the course student will be able to

1. Apply method of integration to find the integral of function.
2. Solve examples of definite integrals using Properties definite integrals.
3. Find the area and volume of given shape.
4. Understanding concept of Gamma and Beta Functions.
5. Solve problems on Multiple Integrals.

Unit-I: Integration of Algebraic Rational Functions

Methods of Integration, Partial Fractions, Non-repeated linear factors only in the denominator, Linear or quadratic non-repeated linear factor, Integration of $\frac{(Lx+M)}{(Ax^2+2Bx+C)^n}$ where n is a positive integer different from 1, Reduction formula for $\int \frac{1}{(y^2+k^2)^n}dx$, Integration of algebraic rational functions by substitution.

Unit-II: Integration of Irrational Algebraic Functions

Integration of $\frac{1}{\sqrt{(ax^2+bx+c)}}$, Integration of $\sqrt{(ax^2+bx+c)}$, Integration of $(px+q)/\sqrt{(ax^2+bx+c)}$, Integration of $(c_0x^n+c_1x^{n-1}+\cdots+c_n)\sqrt{ax^2+bx+c}$, Integration of $1/(Ax+B)\sqrt{(Cx+D)}$, Integration of $1/(ax^2+bx+c)\sqrt{px+q}$, Integration by Rationalisation, Integration of $x^m(a+bx^n)^p$, where m, n and p are not necessarily integers, Reduction formulae for $\int x^m(a+bx^n)^p dx$.

Unit-III: Integration of Transcendental Functions

Reduction formula for $\int sin^m x dx$ and $\int cos^n x dx$, where m and n are positive integers, Reduction formula for $\int sin^m x\ cos^n x dx$, Integration of $sin^m x\ cos^n x$, Reduction formula for $\int tan^n x dx$ and $\int cot^n x dx$, Reduction formula for $\int sec^n x dx$ and $\int cosec^n x dx$, Reduction formula for $\int e^{ax} sin^n bx\ dx$ and $\int e^{ax} cos^n bx\ dx$, Definite Integrals: Definitions, Properties of Definite Integrals, Definite Integral as the Limit of a Sum.

Unit-IV: Beta, Gamma Functions and Multiple Integrals

Gamma Function, A Fundamental Property of Gamma Function, Product of two Integrals, Value of $\Gamma(\frac{1}{2})$, Beta Function, Relation between beta and gamma function, Integration of $sin^{2m-1}\theta\ cos^{2n-1}\theta$, Double integrals, limit of integration for $\iint f(x,y)\ dx\ dy$, Area by

double inegration, Volume under a surface, Polar coordinates(Evaluation of double integral statement only), Change from cartesian to Polar Coordinates.

Text Book 1:
Integral Calculus by Shanti Narayan, S.Chand Company Ltd. Edition-1994 (Reprint-1997).
Scope:
Unit I: Chapter 2: 2.1, 2.2, 2.8, Chapter 3: 3.1 to 3.4, 3.4.1, 3.5, 3.5.1, 3.6
Text Book 2:
A textbook of Integral Calculus by U.P. Singh, R.J. Shrivstava and N.H. Sidiqui, Wisdom Press, Edition -2011.
Scope:
Unit-II: Chapter 2: 12.1 to 12.6, 12.9, 12.11, 12.12
Unit-III: Chapter 3: 13.1 to 13.5, 13.11, Chapter 4: 14.1, 14.2, 14.3, 14.4
Unit-IV: Chapter 5: 15.1 to 15.7, Chapter 6: 16.1 to 16.3, 16.5 to 16.8

REFERENCES :

1. Mathematical Analysis by S.C.Malik and Savita Arora (Second revised edition).
2. Integral Calculus by Gorakh Prasad, Pothishala Private Limited, 2, Lajpat Road, Allahabad-211002
3. Integral calculus by Shanti Narayan and P.K.Mittal,S.Chand and Comp.Ltd.
4. Calculus by G.B. Thomas and R.L. Finney, 9th edition, Pearson Education, Delhi, 2005.
5. Calculus by H. Anton, I. Bivens and S. Davis, John Wiley and Sons(Asia) Pvt. Ltd.
6. Calculus A Complete Course by Robert A. Adams, Pearson Addition Wesley, Toronto.

B.Sc.F.Y. Semester-II
(CBCS PATTERN)
CCM-2, Section-B
Paper IV: (Geometry)

Course Description: This course provides an elementary knowledge of Co-ordinates, Transformation of Co-ordinates, Direction Cosines, Plane, Right Line, Sphere, Cones, and Cylinder.
Objectives: A primary objective of the course is to learn elementary knowledge of Three Dimensional Geometry.
Outcomes: After successful completion of the course student will be able to

1. Understanding concepts on Three Dimensional Geometry.
2. Find equations of Right lines, Planes, Spheres, Cones and Cylinders.
3. Find the Direction cosines of any line under the different given conditions.
4. Understand the intersection of any two or three, three dimensional geometrical figures.
5. Transform the equation of a plane to the normal form.
6. Transform equation of line from the unsymmetrical to the symmetrical form.
7. Find the length of perpendicular from a point to a plane.
8. Find the angle of intersection of two spheres.
9. Understanding concepts of plane of contact.

Unit-I: Co-ordinates and Transformation of Co-ordinates

Direction cosines of a line, a useful relation, relation between direction cosines, Projection on a straight line, projection of a point on a line, projection of a segment on another line, projection of a broken line, projection of the join of two lines. Angle between two lines.

Transformation of Co-ordinates: Introduction, change of origin, change of the direction of a axes, relation between direction cosines of three mutual Perpendicular lines.

Unit-II: The Plane
General equation of first degree, converse of the preceding theorem, Transformation to the normal form, direction cosines of the normal to a plane, angle between two planes, determination of plane under given conditions, intercept form of the equation of a plane, plane through three points, system of planes, two sides of a plane, length of perpendicular from a point to a plane, bisectors of angle between two planes.

Unit-III: Right line

Representation of line, equation of line through a given point drawn in a given direction, equation of a line through two points, two forms of the equation of line, Transformation from the unsymmetrical to the symmetrical form, angle between a line and a plane, condition for a line to lie in a plane, coplanar lines, condition for coplanarity of lines, Number of arbitrary constants in the equation of straight line, determination of lines satisfying given conditions, the shortest distance between two lines, length of the perpendicular from a

point to a line.

Unit-IV: Sphere, Cones and Cylinders

Definition, equation of sphere, General equation of a sphere, The sphere through four given points, sphere, plane section of a sphere, intersection of two spheres, sphere with a given diameter, equation of a circle, Power of a point, equation of a tangent plane, plane of contact, the polar plane , pole of plane, some results concerning poles and polars, angle of intersection of two spheres, condition for the orthogonally of two spheres. Cones, cylinders: Definition, equation of a cone with a conic as a guiding curve, The right circular cone, definition, the cylinder, equation of a cylinder, the right circular cylinder, definition.

Text Book 1:
Analytical Solid Geometry, by Shanti Narayan and Dr. P.K. Mittal (S. Chand Publication.) (Reprint 2015).
Scope:
Unit I: Chapter 1: Art. 1.6, to 1.8, 1.9. Chapter 5: Art. 5.1 to 5.2.
Unit-II: Chapter 2: Art. 2.1 to 2.7.
Unit-III: Chapter 3: Art. 3.1 to 3.7.
Unit-IV: Chapter 6: Art. 6.1 to 6.7. Chapter 7: Art. 7.1, 7.1.1, 7.6, 7.6.1, 7.7, 7.7.1, 7.8, 7.8.1.

REFERENCES BOOKS :

1. Analytical Geometry of two and three dimentions, by Quiz Zameeruddin: Narsoba Pub.
2. Text Book on coordinate Geometry, by Gorakh Prasad, H.C. Gupta; Pothishala Pub.
3. Lecturers on Vector Analysis and Geometry, by T.M. Karde and M.S. Bendre.
4. Analytical Geometry of Three dimensions, by N. Saran and R.S. Gupta , Pothishala Pub.
5. A Text Book of Analytical Geometry of Three dimensions, by P. K. Jain and Khalil Ahmad ,Wiley Eastern Ltd.
6. Elementary Treatise on Co-ordinate geometry of three Dimensions by R.J.T. Bell, Mac Millan India Ltd.

B.Sc.F.Y. Semester-II
(CBCS PATTERN)
CCMP-1, Based on CCM-1 and 2, Section-A
(Annual pattern)
Paper V: (PRACTICAL PAPER)

(Periods per Batch 2 per week , max . marks 100)

SOFTWARES: MATLAB or Related Freeware.
Note: PRACTICAL PAPER IS ONLY FOR B.Sc. Students.
Course Description: This course provides the Introduction to MATLAB , Interactive computation, Plotting of Graphs using MATLAB Software.
Objectives: The main objective of the course is to study MATLAB software and its application to solve problems in matrices and to plot the graphs of different functions.
Outcomes: After successful completion of the course student will be able to

1. Vertify associativity of matrix addition, left distributive law and right distributive law of matrices.
2. Find determinant, eigen values, eigen vectors, inverse, powers and characteristics polynomial of a square matrix.
3. To draw the graph of different functions with the help of MATLAB software and related Freeware.

Section 1: Introduction to MATLAB:

MATLAB Programming language, Built-in Functions, Graphics, computations, External interface and Tool boxes. Basics of MATLAB: MATLAB windows, desktop, command window, workspace, Figure and Editor Windows, Input-output, File types, platform dependence, Printing. Programming in MATLAB: Scripts and14 functions. Script files, function files: Executing of function, writing good functions, sub functions, compiled functions.

Section 2: Interactive computation :

(MATRICES) Matrices and Vectors, input, indexing, matrix manipulation, creating vectors. Matrix and Array operations, Arithmetic operations, Relational operations, logical operations, Elementary math functions, matrix functions, character string. Command line Functions, Inline functions, Anonymous functions. Built-in functions, finding the determinant of matrix, finding eigen-values and eigenvectors. Saving and loading Data, Importing data files, recording a session. Applications: - Linear Algebra. Solving a linear system, Gaussian elimination, Finding eigenvalues and eigenvectors, matrix factorization, advanced topics.

Section 3: Plotting of Graphs:

Plotting simple Graphs. Graphics: - Plotting of 2D graphs, Using subplot for multiple graphs, 3DPlots (Drawing of different Geometrical objects), saving and Printing.

Reference Book 1:
(for MATLAB Users).

1. Getting Started With MATLAB 7 by Rudra Pratap, Oxford University Press, (Indian Eden)www.oup.com, ISBN-0-19-568001-45.

Scope:
Chapter 1: Art. 1.1,1.6. Chapter 3: Art. 3.1, 3.2, 3.4, 3.5, 3.6, 3.7,
Chapter 4: Art. 4.1, 4.2
Chapter 5: Art. 5.1
Chapter 6: Art 6.1, 6.2, 6.3.
Reference Book 2:
(for Scilab Users).

1. SCILAB: A Practical Introduction to Programming and Problem Solving by Tejas Sheth

NOTE:

1. Section 1 is introductory part, so no question to be set for Examination.
2. Record book must contain 10 practical on section 2 and 10 Practical on section 3.

B.Sc. F.Y. PRACTICAL PAPER
(Annual pattern)
WITH EFFETIVE FROM June 2019
(LIST OF PRACTICALS)

N.B.: PRACTICAL PAPER IS ONLY FOR B.Sc. STUDENTS.
Any twenty of the following practical problems :

1. To enter the Matrix A and pick-out following entries from it :$A_{11}, A_{21}, A_{22}, A_{23}$.
2. To find the transpose a matrix.
3. For two matrices A and B, to find $A + B$ and $B + A$ and to verify whether the matrix addition is commutative.
4. For a square matrix A to find A^2, A^3, A^4, A^5.
5. For two matrices A and B, confirmable for multiplication from both sides, to find AB and BA.
6. To verify the associativity of matrix addition.
7. To verify both left distributive law and right distributive law.
8. To find the determinant of a square matrix.
9. To find the inverse of a square matrix
10. To find the rank of the matrices.
11. To solve the system of linear equations whose matrix equation is $Ax = b$ and check the solution.
12. To find the eigen values of a square matrix.
13. To find the eigen vectors of a square matrix.
14. To find the characteristic polynomial of a square matrix.
15. To find the conjugate of a matrix.
16. To plot $f(x) = e^{\frac{-x}{10}} \sin x$ for x between 0 and 20.
17. To plot $r(\theta) = 1 + 2\sin(2\theta)$ for $0 < \theta < 2\pi$.
18. To plot the contours of $z = \cos x \cos y \exp(\sqrt{x^2 + \frac{y^2}{4}})$ over the default domains.
19. To plot the surface for $z = \frac{-5}{(1+x^2+y^2)}$ over the domain $|x| < 3$ and $|y| < 3$.
20. To plot multiple graphs $y_1 = \sin t, y_2 = t, y_3 = 1 - \frac{t^3}{3!} + \frac{t^5}{5!}$ in same figure window.
21. To plot $x = e^{-t}, y = t$, $0 \leq t \leq 2\pi$.
22. To plot $f(t) = t \sin t$, $0 \leq t \leq 10\pi$.
23. To plot the surface $z = \frac{xy(x^2-y^2)}{x^2+y^2}$, $-3 \leq x \leq 3$, $-3 \leq y \leq 3$ by computing the values of z over 50×50 grid on specified domain.

24. To draw a cylinder with base radius $r = 40$ and top radius $r = 60$.
25. To plot the unit sphere.
26. To draw discrete data plot with stems : $x = t, y = t\sin(t), z = e^{\frac{t}{10}} - 1$ for $0 \leq t \leq 6\pi$.
27. To draw the MATLAB logo $z = cosxcosy\ e^{\frac{-\sqrt{x^2+y^2}}{4}}$ for $|x| \leq 5, |y| \leq 5$.
28. To draw the pie chart for the world population by continents for data.
29. To draw the bar chart for the world population by continents for data.
30. To plot $x = t, y = e^t, 0 \leq t \leq 2\pi$.

QUESTION PAPER PATTERN B.A./B.Sc. F.Y.

CBCS SEMESTER SYSTEM

SUB: MATHEMATICS

(w.e.f. 2019-20)

Maximum Marks: 40	**Time:**

Q.1 Attempt any Three of the following (5 Marks each) - 15 Marks

a)
b)
c)
d)
Based on Unit (I & II)
Two from each Unit

Q.2 Attempt any Three of the following (5 Marks each) - 15 Marks

a)
b)
c)
d)
Based on Unit (III & IV)
Two from each Unit

Q.3 Attempt any Two of the following (5 Marks each) - 10 Marks

a)
b)
c)
Based on Unit (I, II & III)
One from each Unit

Note: At least One Theory and One Problem in each question.

* * * * *

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक ३१ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. २६/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

1. B.Sc.-III Year-Biophysics
2. B.Sc.-III Year-Bioinformatics
3. B.Sc.-III Year-Biotechnology
4. B.Sc.-III Year-Biotechnology (Vocational)
5. B.Sc.-III Year-Botany
6. B.Sc.-III Year-Horticulture
7. B.Sc.-III Year-Agro Chemical Fertilizers
8. B.Sc.-III Year-Analytical Chemistry
9. B.Sc.-III Year-Biochemistry
10. B.Sc.-III Year-Chemistry
11. B.Sc.-III Year-Dyes & Drugs Chemistry
12. B.Sc.-III Year-Industrial Chemistry
13. B.C.A. (Bachelor of Computer Application)-III Year
14. B.I.T. (Bachelor of Information Technology)-III Year
15. B.Sc.-III Year-Computer Science
16. B.Sc.-III Year-Network Technology
17. B.Sc.-III Year-Computer Application (Optional)
18. B.Sc.-III Year-Computer Science (Optional)
19. B.Sc.-III Year-Information Technology (Optional)
20. B.Sc.-III Year-Software Engineering
21. B.Sc.-III Year-Dairy Science
22. B.Sc.-III Year-Electronics
23. B.Sc.-III Year-Environmental Science
24. B.Sc.-III Year-Fishery Science
25. B.Sc.-III Year-Geology
26. B. A./B.Sc.-III Year-Mathematics
27. B.Sc.-III Year-Microbiology
28. B.Sc.-III year Agricultural Microbiology
29. B.Sc.-III Year-Physics
30. B. A./B.Sc.-III Year Statistics
31. B.Sc.-III Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/७५
दिनांक : १२.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग विज्ञान व तंत्रज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MATHAWADA UNIVERSITY, NANDED

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

B. Sc. Third Year Physics Syllabus
(CBCS Pattern)
Effective from Academic Year 2021-2022

Disclaimer

*Syllabus of **B. Sc. Third Year (Semesters V and VI) Physics** given in this document was prepared following requirements of the **Choice Based Credit System (CBCS)** pattern, as recommended by **UGC, New Delhi,** and has been duly approved by the **Faculty of Science and Technology, the Academic Council** and the **Management Council** of **S.R.T.M. University**. The same has been implemented from the academic year **2021-2022**.*

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Preamble:

Swami Ramanand Teerth Marathwada University, Nanded, following the directives of the **University Grants Commission, New Delhi (UGC)**, has been trying hard to enhance the academic standard of this region and has taken several steps in recent past to improve the quality of higher education in its jurisdiction. These include the improvement and revision of the existing curricula in tune with the courses at national and international level, implementing innovative methods in teaching-learning processes, imparting skill based value added education, improvisation in the examination and evaluation processes, etc. These measures are very much useful in achieving **3Es, the *equity, efficiency and excellence*** in higher education of this region. However, the diversified approaches followed by different faculties and universities within India puts a limit on bringing the global equality in higher education across the country. This is because majority of universities within India follow conventional method of awarding percentage of marks for the performance of the students in their semester end examinations, in contrast to the grades awarded by the institutions of national reputes like IITs, IISERs, IISC and central universities. The scheme of conversion of the scores from percentage to point based grades and letter grades vary widely across the institutions and universities, which in turn produces a large range of disparity and difficulty in comparing performances of students graduating from different universities and institutes.

To overcome such anomalies in assessing performances of the candidates graduating from different universities UGC in recent past has undertaken an exercise of restructuring the curricula of different courses offered by various universities across the country. Though academic flexibility and autonomy is provided to the universities to design their own examination and evaluation methods best suiting the curricula and teaching–learning methods adopted in conducted and affiliated colleges, there is a global need to devise a sensible mechanism for awarding grades to the performance of students. As a result the UGC, New Delhi has suggested all the universities to adopt the grading system of computing the ***cumulative grade point average*** **(CGPA)** for assessing academic performance of the students in the university examinations. This is important not only to compare the performances of the students graduating from different universities but also provide mobility to the students in joining different institutions within India as well as in other countries. The common grading system followed by different universities also enables the potential employers to assess performances of candidates uniformly. As a result S.R.T.M.U. has adopted the ***cumulative grade point average*** **(CGPA)** system for assessing performance of students studying in its jurisdiction from the academic year 2014-2015. Further, following the suggestions by the

UGC and looking at the better employability, entrepreneurship possibilities and also to enhance the latent skills of the students SRTMU has also adopted the ***Choice Based Credit System*** **(CBCS)** at graduate as well as post-graduate level. The CBCS system offers flexibility to the students in choosing courses of their own choice from the exhaustive list comprising core, elective/minor or skill based components that are evaluated following the grading system. In the coming academic year 2021-2022 the University shall be implementing the revised syllabus of B. Sc. Third Year Physics. This document provides detailed information on methodology of choosing different components of B. Sc. Third Year (Semester V and Semester VI) Physics theory and practical courses.

The courses offered by this university are of student-centric nature and help them to understand the basic laws of nature and develop necessary skills to apply them to the advanced areas of studies. There are two common or core or mandatory courses meant to provide adequate knowledge of various branches of physics and to prepare the students for applying them for advanced courses. In addition, there will be elective courses as well as few skill based courses, which are of advanced nature and help the students to develop their skills through hands-on activities. The details of the courses and activities are as follows:

Outline of the Choice Based Credit System:

1. Discipline Specific Compulsory (DSC) Courses: Every student graduating in Science faculty with Physics as one of the optional subject is required to study these theory and practical papers as core or compulsory courses. There shall be two such theory papers (P-XII and P-XIV, each of 02 credits), one each in Semester V and VI, whose performance shall be assessed at the end of the respective semesters. There shall be one practical course corresponding to both these compulsory courses, however, the performance of candidates in the practical course shall be assessed on the annual basis i.e., at the end of the Semester VI by a pair of external examiners.

2. Discipline Specific Elective (DSE) Courses: Students have freedom to choose an advanced course of their interest and inclination from a pool of courses made available by the university for a particular semester. These courses are of specific or specialized or advanced or supportive nature and are designed such that they provide extended scope to the students or enable them to expand their knowledgebase. Every student has a freedom to elect one of such theory course of 02 credits, whose performance will be assessed at the end of the corresponding semester. These elective courses will be supplemented by practical courses each of 01 credits, however, they will be assessed following annual pattern i.e., at the end of the academic year. Attempts will also be made to offer elective courses of interdisciplinary nature from some other

subjects, disciplines, or faculties; however, for the availability of such courses the students are required to consult their teachers.

3. Skill Enhancement Courses (SEC): These courses are aimed at providing hands-on-training, competencies, skills, etc. to the students. As these courses are primarily of hands-on-training type, therefore, students are expected to devote much of their time in laboratory activities rater than the conventional classroom teaching. Therefore, one-third of the time allocated to this course will be utilized for the classroom teaching, imparting instructions, etc., while remaining two-third will be utilized by the students in developing their skills through the hands-on exercises. The exercises to be undertaken for this purpose shall be of different nature than that of their regular laboratory / practical courses. There shall be two such skill enhancement courses, one each in semester V and VI, which shall be selected by the students depending on their choice and inclination. Performance of the students in these couses shall be assessed at the end of the semester VI following annual pattern by a pair of external examiners along with their practical courses. Students have freedom to choose the Skill Enhancement Courses (SEC III and IV) from either of their optional paper at B. Sc. Third Year.

4. **Laboratory/Practical Courses**: Every students studying in B Sc final year (Semester V and VI) is required to complete two laboratory / practical courses (Paper Nos. P-XVI and P-XVII), which shall be assessed / examined at the end of the Semester-VI (annual pattern). Paper P-XVI comprises practicals based on the compulsory (DSC) papers P-XII and P-XIV, while P-XVII comprises those based on the elective (DSE) papers P-XIII and P-XV.

The B. Sc. Third Year (Semester V and VI) Physics syllabus given in this document has been prepared by different subcommittees constituted in the meeting of the BOS in Physics held on 10th April 2018 and is finalized after due consent from all the respected members. The BOS has invited comments, suggestion, corrections in the draft syllabus from all the Physics teachers affiliated to this university and has incorported those suggestions in the syllabus presented in this document.

(***Prof. M. K. Patil***)
Chairman, Board of Studies in Physics

Structure and Marking Scheme of B. Sc. Physics Programme

B. Sc. Physics F. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
I	CCP I (Section A)	Mechanics and Properties of Matter (P-I)	03	45	10	40	50	2
	CCP I (Section B)	Mathematical Methods in Physics (P-II)	03	45	10	40	50	2
II	CCP II (Section A)	Heat and Thermodynamics (P-III)	03	45	10	40	50	2
	CCP II (Section B)	Electricity and Magnetism (P-IV)	03	45	10	40	50	2
Practical Paper	CCP P I (Annual Pattern)	P-V :Practicals based on Section A &B of CCP-I& II	04	60	20	80	100	4
	Total Credits of Semester I and II							12

B. Sc. Physics S. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
III	CCP III (Section A)	Waves and Oscillations (P-VI)	03	45	10	40	50	2
	CCP III (Section B)	Statistical Physics, Electromagnetics and Theory of Relativity (P-VII)	03	45	10	40	50	2
	CCPS I (Section A)	Skill Enhancement Course I (SEC I)	03	45	25	25	50	2
IV	CCP IV (Section A)	Optics and Lasers (P-VIII)	03	45	10	40	50	2
	CCP IV (Section B)	Basic Electronics (P-IX)	03	45	10	40	50	2
	CCPS I (Section B)	Skill Enhancement Course II (SEC II)	03	45	25	25	50	2
Practical Papers (Annual Pattern)	CCPP II (Annual Pattern)	P-X :Practicals based on Section A of CCP-III & IV	03	45	10	40	50	2
	CCPP III (Annual Pattern)	P-XI :Practicals based on Section B of CCP-III & IV	03	45	10	40	50	2
	Total Credits of Semester III and IV							16

MSA - Mid Semester Assessment

ESA – End Semester Assessment

CCP – Core Course Physics

CCPP – Core Course Physics Practical

B. Sc. Third Year Physics (Semester-V and VI) (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact Hours		Assessment scheme			Credits
			per week	Total	End Sem Exam (ESE)	Continuous Assessmnt (CA)	Total Marks	
Semester V	DSEP I (*Section A*) P-XII	Quantum Mechanics (P-XII)	03	45	40	10	50	02
	DSEP I *Elective* (*Section B*) P-XIII	Solid State Physics (P-XIII A) *Or* Astrophysics (P-XIII C)	03	45	40	10	50	02
	DSEPP I P-XVI (*Section A*)	Practicals based on theory courses (P-XII)	04	06 pract (24 Hrs)	20	05	25 (*Annual Pattern*)	01
	DSEPP I P-XVII (*Section A*)	Practicals based on elective course P-XIII	04	06 pract (24 Hrs)	20	05	25 (*Annual Pattern*)	01
	SEC III (*Skill Enhancement Course*)	Renewable energy & Harvesting *or* Electrical Circuit Analysis Skill	---	45 Hands-on	25	25 (Test 15 + Seminar 10)	50	02
Semester VI	DSEP II (Section A) P-XIV	Atomic, Molecular and Nuclear Physics (P-XIV)	03	45	40	10	50	02
	DSEP II *Elective Course* (Section B) P-XV	Digital and Communication Electronics (P-XV A) *Or* Fiber Optics Communication (P-XV C)	03	45	40	10	50	02
	DSCPP II P-XVI (*Section B*)	Practicals based on theory courses P-XIV	04	06 pract (24 Hrs)	20	05	25 (*Annual Pattern*)	01
	DSEPP II P-XVII (*Section B*)	Practicals based on elective papers P-XV	04	06 pract (24 Hrs)	20	05	25 (*Annual Pattern*)	01
	SEC IV (*Skill Enhancement Course*) SEC IV	Physics Workshop Skill *or* Semiconductor Devices Application Skill	---	45 Hands-on	25	25 (Test 15 + Seminar 10)	50	02
	Total (Physics) Credits of Semesters V and VI							**16**

P-XII DSEP I (Section A) - Discipline Specific Compulsory Paper:

Quantum Mechanics

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning objectives: *The objective of this course is to introduce the students to the world of microscopic particles such as molecules, atoms, atomic nuclei and elementary particles, study their dynamics employing wave analogy, and also to make the connections between the rules governing the microscopic particles with that of the macroscopic bodies around us. This course is the pre-requisite for several advanced courses in physics and chemistry and is necessary for understanding the behavior of molecules, atoms and elementary particles. The pre-requisite for this course is knowledge of calculus, wave theory and modern physics. This course is the core course and every student pursuing B Sc with physics as one of the optional is required to study this course.*

Unit I Particle Properties of Waves **(12 Periods)**

Introduction, Photoelectric Effect, Quantum Theory of Light, The Compton Effect, de Broglie waves, Wave function, de Broglie Wave Velocity, Wave and Group velocities, G. P. Thomson experiment, The Uncertainty principle and its applications.

Unit II Schrödinger's Equation **(12 Periods)**

Introduction, Schrödinger's Equation: Time dependent form, Probability current, Expectation Values, Operators, Schrödinger's Equation: Steady-state form, Eigen values and Eigen functions, Problems.

Unit III Applications of Quantum Mechanics **(09 Periods)**

Introduction, The particle in a box: energy quantization, The particle in a box: wave functions, The particle in a box: Momentum Quantization, The Harmonic Oscillator, The Harmonic Oscillator-Energy level, The particle in a three dimensional box

Unit IV Quantum Theory of Hydrogen Atom **(12 Periods)**

Schrödinger's equation for the Hydrogen Atom in spherical polar co- ordinates, separation of Variables, Quantum numbers –Total quantum number, Orbital quantum number, Magnetic quantum number, spin quantum number.

Books Recommended:

1. Perspectives of Modern Physics-Arthur Beiser (McGraw-Hill Int.Edition)
2. Modern physics – R. Murugeshan.(S.Chand & Co.XIth Revised edition)
3. Text Book of Quantum mechanics – Kakani & Chandaliya ((S.Chand & sons)
4. Quantum Mechanics – Chatwal and Anand (Himalaya Publishing)
5. Quantum Mechanics- Ghatak and Loknathan

P-XIII A - DSEP I (Section B) – Discipline Specific Elective Paper:

A. Solid State Physics

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning Objective: *This course is designed to provide fundamental knowledge of the crystallography, principles behind the formation of matter, their structure and physical properties. This course also enables the students to understand the relationship between the internal structure and various properties of matter such as periodicity, structure and bonding in solids, making these solids an attractive material for the device applications. At the end of this course, students will be able to classify the materials in different classes based on their physical, thermal, electrical, and magnetic properties. This is an elective course of 02 credits offered at Semester V.*

Unit I Crystal structure (10 Periods)

Introduction, Crystal Lattices and Translation vectors, Unit cell, Basis, Symmetry operations, Point groups, space group, Types of lattices, Simple crystal structure (HCP, FCC, BCC, SC), Structure of Diamond, NaCl, Problems.

Unit II Bonding in Solids and X-Ray Diffraction (10 periods)

Inter atomic forces and types of bonding, ionic bond, covalent bond, metallic bond, hydrogen bond, Vander-waal's bond.

X-ray diffraction, Bragg's law, Laue's method, Rotating crystal method

Unit III Thermal properties of Solids (12Periods)

Specific heat of gases, Specific heat of solids, Classical theory of Lattice heat Capacity, Einstein's theory of heat Capacity, Debye's theory of specific heat of solids, Limitations of Debye model

Unit IV Free Electron Theory of Metals (13 Periods)

The outstanding properties of metals, Drude-Lorentz theory, Thermal conductivity, Electrical conductivity, Widemann- Franz relation, Sommerfeld Model, Electrical conductivity and Ohms law, Electronic specific heat, Thermoionic emission, escape of electrons from metal.

Books Recommended:

1. Solid State Physics and Electronics – R. K.Puri & V. K. Babar (S.chand & Co.)
2. Solid State Physics – Saxena,Gupta, Saxena (Pragati Prakashan Meerut)
3. Solid State Physics – Puri & Babar (S.chand & Co.)
4. Introduction to Solid State Physics -by Kittel, Wiley and Sons, 7th Edition.
5. Material Science by M. Arumguarn, Anuradha Publishers.
6. Solid state Physics – R.L.Singhal (Kedar Nath Ram Nath Co., Meerut)

P-XIII (C) DSEP I (Section B) – Discipline Specific Elective Paper:

B. Astrophysics

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning Objectives: *Astronomy and Astrophysics is the oldest branch of science, perhaps started with the origin of the humankind, and has evolved systematically with time. In the present era with the availability of the state-of-the-art observing facilities across the electromagnetic spectrum, thanks to the technological advancements, the scope of the study of the astronomical objects have became more interesting and challenging. This study involves the knowledge of Classical Mechanics, Quantum Mechanics, Nuclear physics, Statistical Mechanics, Electrodynamics, Spectroscopy, Mathematical Physics, Modern Electronics, Chemistry and even Biological sciences. At the end of course, the students will be able to understand the important concepts of astronomical objects and will be in a position to provide a fundamental connections between different fields of the science in general and physics in particular*.

Unit I Fundamentals of astronomy: (10 Periods)

Brief history of astronomy (geocentric universe, heliocentric universe), co-ordinate systems (celestial sphere, horizon, equatorial co-ordinate systems), Greenwich Sideral time, Local Sideral time, zonal time, Hour angle and mean solar time, Astronomical Distance, astronomical unit (AU), light year, parsec, distance measurement in astronomy-stellar parallax

Unit II The Solar Family (10 Periods)

Kepler's laws of planetary motion, the Earth's orbit and spin, the Moon's orbit and spin. the planets in the solar system - the terrestrial and Jovian planets, structure, composition and atmospheres of the planets, ring systems and satellites of the planes, asteroids, meteors and meteorites, comets and their origin, solar and lunar eclipses, Origin of the Solar System: The Nebular hypothesis.

Unit III Astronomical Techniques (15 Periods)

Photon and non-photon astronomy, Photons (electromagnetic waves), Wavelength and frequency, Photon energy, Temperature, electromagnetic frequency bands – windows in astronomy
Black body radiation- Planck laws, Wien displacement law, Brightness, Radiant Flux and Luminosity. Magnitude systems: Apparent and absolute magnitudes, Distance Modulus; Determination of Temperature and Radius of a star

Atmospheric effects (absorption, seeing) - Basics of telescopes - Noise and statistics - Photon detectors - Basics of photometry - Spectroscopy and polarimetry.

Unit IV The Sun as a star (10 Periods)

The Sun as a star, Solar Parameters, Solar Atmosphere, Solar Photosphere, Chromosphere, Corona, Solar Activity, Sunspots and sunspot cycle, solar limb darkening, solar neutrino puzzle.

Reference Books:

1. Modern Astrophysics – B.W. Carroll and D.A. Ostlie, 1996, Addison-Wesley Publishing Co., Inc.
2. The Physical Universe: An Introduction to Astronomy – Frank H. Shu, 1982, University Science Books, Sausalito, California
3. Astrophysics by Baidyanath Basu
4. Introduction to Astrophysics by K D Abhyankar

SEC III (A) Skill Enhancement Course: *A. Renewable Energy and Harvesting*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=25, ESE=25*)**

Learning Objectives: *Aim of this course is to introduce and create awareness among the students about use of the non-conventional energy sources such as solar energy, wind energy, tidal energy, biomass, etc. After completing this course the students will not only gain knowledge of various non-conventional energy sources but also get hands-on experience of utilizing them in real life. As this course is primarily of hnads-on trianing type, therefore, the students will be trained to harvest these non-conventional energy sources and design their own gadgets to convert and use them for their house hold purposes.*

Uuit 1 Fossil Fuels and Alternate Sources of Energy (12 Lectures)
Fossile fuels and Nuclear Energy, Need of renewable energy, Non-conventional energy sources, Wind Energy, Tidal Energy, Solar Energy, Biomass Energy.

Unit 2 Solar Energy and Harvesling (12 Lectures)
Importance, Storage of Solar Energy, Applications of Solar Energy, Solar Water Heater, Solar Distillation, Solar Cooker, Solar Greenhouses, Solar cell charecterstics of Photovoitaic (pv) Systems.

Unit 3 Wind Energy Harvesling (11 Lectures)
Fundameials of Wind Energy, Wind Turbines and Different Electrical Machines in Wind Turbines, Power Eleclronic Interfaces and Grid Interconnection Technologies.

Unit 4 Ocean Energy (10 Lectures)
Oscean Enersy Potential against Wind and Solar Enevgy, Wave Energy Devices. Geothermal Energy Technologies, Hydropower Technologies.

Hands on Exercises:

1. Studying basics of solar energy
2. Assemble solar cooker
3. Studying basics of solar electricity
4. Installation of solar panels and solar energy harvesting
5. Studying basics of Biomass Energy as an alternative source
6. Generating electricity from wind energy and its storage
7. Studying the construction ans working of a solar lantern
8. Desigining and constructing photovoltaic system for a domestic house requiring 5kVA power
9. Designing and constructing wind turbine system to power a house requiring 2kVA

Reference Books:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.
3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Godfrey Boyle, “Renewable Energy, Power for a sustainable future”, 2004, Oxford University Press, in association with The Open University.
5. Dr. P Jayakumar, Solar Energy: Resource Assesment Handbook, 2009
6. J.Balfour, M.Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich (USA).

SEC III (B) Skill Enhancement Course: *B. Electrical Circuit Analysis Skill*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=25, ESE=25*)**

Learning Objectives: *Aim of this course is to create awareness among the students about the electrical circuits, wiring of the electrical appliances and enable them to check for troubleshoots through hands-on exercises. This course introduces the students to various electrical components including their characteristics and power losses. As this course is of skill based, therefore, after completing this course students will not only be able to check the electrical connections at house-hold but will also learn the skill to repaire the electrical appliances for the general troubleshoots and wiring faults.*

Unit I Understanding Electrical Circuits (15 Lectures)

Main electric circuit elements and their combinations, rules of analyzing the DC electrical circuits, quantifying current and voltage drops across the circuit elements. A.C. Circuits: Single-phase and three-phase alternating current sources, rules to analyze the AC electrical circuits, understanding real, imaginary and complex power components of the AC source, power factor and approaches to save energy and money.

Electrical circuit drawing symbols, blueprints, reading schematics, ladder network diagrams. Electrical Schematics, Power circuits, Control circuits and reading the circuit schematics. Tracking the connections of elements and identifying current flow and voltage drop.

Unit II Electrical Transformers, Generators and Motors (10 Lectures)

DC Power sources, AC and DC generators, characteristics of the circuit elements inductance, capacitance, and impedance, transformer workings and characteristics

Working of electric motors, single-phase, three-phase AC and DC motors. Basic design. Interfacing DC or AC sources to control heaters & motors. Speed & power of ac motor.

Unit III Electrical Circuit Protection (15 Lectures)

Relays, fuses and disconnect switches, circuit breakers, overload protection devices, electrical ground-fault protection, grounding and isolating electric circuits, phase reversal, surge protection. Interfacing DC or AC sources to control elements (relay protection device)

Unit IV Electrical Wiring (10 Lectures)

Different types of conductors and cables, basics of wiring: star and delta connections, voltage drops and electrical losses across the connecting cables and conductors. Instruments to measure current, voltage, power in DC and AC circuits. Insulation. Solid and stranded cable. Conduit. Cable trays.

Hands on Exercises:

1. Awareness of electrical safety tools and rescue of person in contact with live wire
2. Studying electrical performance and power consumption of a given number of bulbs connected in series and parallel circuits
3. Checking specific gravity of lead acid batteries in home UPS and toping-up with distilled water
4. Practicing soldering and de-soldering of various electrical and electronic components

5. Identifying Phase, Neutral and Earth on power sockets and checking the healthiness of mains using a test lamp

6. Identifying primary and secondary windings and measuring primary and secondary voltages in various types of transformers

7. Connecting an ELCB and testing the leakage of an electrical motor control circuit

8. Connecting battery and load to an UPS and testing its performance in battery mode

9. Studying construction and working of AC and DC motors

10. Trouble shooting electrical circuits

11. Studying electrical circuit protection using relays, fuses and circuit breakers

12. Dismantle electric fan / motor and identify the damaged / burnt part of winding in it

13. Drawing blueprints and wiring of single phase electrical circuit for a house hold supply

Books Recommended:

1 A text book in Electrical Technology - B L Theraja - S Chand & Co.
2 A text book of Electrical Technology - A K Theraja
3 Performance and design of AC machines - M G Say ELBS Edn.

P-XIV DSCP II (Section A) - Discipline Specific Compulsory Paper: *Atomic, Molecular & Nuclear Physics*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning Objectives: *Aim of this course is to introduce the students to the world of physics of atoms, molecules and nuclei, their structures, emission of Gamma rays, X-rays, optical and microwave spectra from these systems, the interaction of atoms and molecules with electric and magnetic fields. This course also provides adequate knowledge on the nuclear energy sources and reactions with its application in establishing nuclear reactors.*

Unit I Atomic Physics **(15 Periods)**
The Vector Atom Model, Quantum numbers associated with the vector atom model, LS and J-J coupling, The Pauli's exclusion Principle, Selection rules, Intensity rules, Interval rule, Normal Zeeman effect, Anomalous Zeeman effect, Stark effect.

Unit II Molecular Spectra **(10 Periods)**
Regions of Electromagnetic Spectra, Classification of Molecular Spectra, Theory of pure rotational spectra, Theory of rotation-vibration spectra, Raman Effect, Experimental study.

Unit III Particle Accelerators **(10 Periods)**
Need of particle accelerators, Van de Graff Generator, Linear accelerator, Cyclotron, Synchrotron, Betatron.

Unit IV Nuclear Fission, Fusion and Nuclear Reactions **(10 Periods)**
Nuclear Fission, the fission products, energy release in fission, nuclear transmutations (by alpha particles, protons, deuterons and neutrons), conservation laws, Nuclear reaction kinematics
Introduction to Nuclear fusion, thermo-nuclear reactor, the neutron cycle.

Recommended Books:

1. Modern physics- R. Murugeshan, Kruthigaprasath. (S.Chand & Co.)
2. Atomic physics – J.B.Rajam. (S.Chand & Co.)
3. Nuclear Physics – D.C.Tayal (Himalaya Publishing House)
4. Nuclear Physics – Irving Kaplan
5. Introduction to Atomic Spectra: H E White, McGraw Book Company, Inc.
6. Basic Nuclear Physics- B. N. Shrivastav.

P-XV A - DSEP II (Section B) - Discipline Specific Elective Paper

A. Digital and Communication Electronics

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning Objectives: *This course enabels the students to understand the importance and interconvertibility of various number systems, principles of digital gates, and working principle of communication systems. After completing this course students will be in a position to know the working of communication systems i.e., modulators, demodulators, transmitters and receivers, etc.*

Unit I Number Systems (12 Periods)
Number System:- Decimal numbers, Binary numbers, Binary arithmetic, Ones complement representation, Twos complement representation, Octal Numbers, Hexadecimal numbers, Inter-conversions of number systems, Binary coded decimal (BCD), Gray code, Excess-3 code.

Unit II Logic Gates (12 Periods)
AND gate, OR gate, NOT gate, NAND gate, NOR gate, EX-OR and EX-NOR gates, Universal properties of NAND and NOR gates.
Boolean operations, logic expressions for 2,3 & 4 inputs, laws of Boolean algebra, De -Morgen's theorems, SOP form of Boolean expressions, simplification of Boolean expressions using K- maps (up to 4 variables),Half adder, Full adder

Unit III Modulation and Demodulation (12 Periods)
Introduction, Types of Modulation, Expression for A. M. voltage, AM waves, Frequency spectrum of AM wave, Power Output in AM, Expression for frequency modulated voltage, Principle of demodulation, linear diode AM detector or demodulator.

Unit IV Communication Electronics: (book5, 6) (09Periods)
Introduction, Block diagram of basic communication system, Essential elements of A.M. Transmitter. A.M. receiver: Turned Radio Frequency (TRF) Receiver, Super heterodyne receiver, Characteristics of radio receivers: sensitivity, selectivity, fidelity & their measurements.

Books Recommended:

1.Modern Digital Electronics- R.P. Jain, Tata McGraw Hill Pub. Company (Third edition)
2.Digital Fundamentals-Thomas L. Floyd, Universal Book Stall
3.Digital Principles and Applications- A. P. Malvino, (McGraw Hill International Editions(Fourth Edition)
4.Digital Electronics with Practical Approach- G. N. Shinde, Shivani Pub., Nanded
5.Electronics and Radio Engineering – M. L. Gupta
6.Communication Engineering – J.S. Katre (Tech Max Pub – Second revi. edition)

P-XV C - DSEP II (Section B) - Disciplne Specific Elective

B. Fiber Optical Communication

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning Objectives*: This course is aimed to offer a broad view on the fundamentals and salient features of the modern communication technique i.e., fiber optical communication, which revolutionized communication technology and has become integral part of the Engineering and related technologies. This course provides a deep understanding of the fiber optical communication and salient features of designing and developing different types of optical fibers to be used for specific purposes. Through this course the students will learn the concepts of propagation and behavior of light rays through the optical fibers of different refractive indices. The pre-requisite for this is that the students must know characteristics of different light sources including monochromatic sources like LASERS, and electromagnetic wave theory.*

Unit I **(12 Lectures)**

Introduction to Fiber optics, Snell's law, Total Internal Reflection, Transmission of light in optical fiber, Concept of Acceptance angle, Relation between acceptance angle and refractive indices of the media (i.e. Numerical Aperture of the fiber), Meridional rays and skew rays.

Unit II **(10 Lectures)**

Types of fibers and their transmission ray characteristics, Step index single mode and multimode optical fiber waveguides, Guided modes or mode volume of step index multimode fibers, Normalized frequency

Unit III **(13 Lectures)**

Graded index fibers, Refractive index profiles with α parameters, Ray transmission in graded index fibers, Comparison of Intermodal dispersion in Graded index and Step index fibers, Mode volume or Guided modes in Graded index fibers.

Unit IV **(10 Lectures)**

Single mode fibers, maximum core diameter for single mode operation, cutoff wavelength.

Reference Books:

1. Optical Fiber Communications: Principles and Practice, John M Senior
2. Optical Fibers & Fiber Optical Communication Systems, S. K. Sarkar
3. Introduction to fiber optics, R S Khairnar

SEC IV (A) Skill Enhancement Course

A. Physics Workshop Skills

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=25, ESE=25*)**

Learning Objectives: *Aim of this course is to create awareness among the students about the mechanical, electrical and electronic tools through hands-on activities. This course introduces the students to the workshop skills like cutting, drilling, filing, different types of AC and DC generators, soldering-desoldering of electrical and electronics components, constructing regulated power supplies, etc., therefore, after completing this course students will gain skills of using various workshop tools and also to find faults and general troubleshoots and wiring faults.*

Unit I Introduction **(4 Lectures)**

Measuring units. Conversion to SI and CGS. Familiarization with meter scale, Vernier caliper, Screw gauge and their utility. Measure the dimension of a solid block, volume of cylindrical beaker/glass, diameter of a thin wire, thickness of metal sheet, etc. Use of Sextant to measure height of buildings, mountains, etc.

Unit II Mechanical Skill **(10 Lectures)**

Concept of workshop practice. Concept of machine processing. Introduction to common machine tools like shaper, drilling, and surface machines. Cutting tools, lubricating oils. Cutting of a metal sheet using blade. Smoothening of cutting edge of sheet using file. Drilling of holes of different diameter in metal sheet and wooden block.. Make funnel using metal sheet.

Unit III Electrical Skills **(08 Lectures)**

DC Power sources. AC/DC generators. Inductance, capacitance, and impedance. Response of inductors and capacitors with DC or AC sources. Operation of transformers..

Unit IV Electronic Skill **(08 Lectures)**

Soldering of electrical circuits having discrete components (R, L, C, diode) and ICs on PCB. Operation of oscilloscope. Making regulated power supply. Timer circuit, Timer IC: IC 555 Pin diagram and its application as Astable & Monostable Multivibrator Electronic switch using transistor and relay

Hands on Exercises:

1. Measure dimensions of solid blocks of different sizes using Vernier Calliper
2. Making funnel using metal sheet
3. Designing and constructing a transistorized regulated power supply
4. Constructing voltage regulating circuits using IC LM 317
5. Soldering and de-soldering of circuits using discrete components (R, L, C, Diodes, transistors, etc)
6. Designing and making of printed circuit boards (PCBs)
7. Soldering of ICS on PCB
8. Constructing and testing working of IC 555 Timer
9. Winding a coil or transformer of different number of turns and testing their performances
10. Wiring of simple circuits using Bread Board

Reference Books:

1. A text book in Electrical Technology - B L Theraja – S. Chand and Company.
2. Performance and design of AC machines – M.G. Say, ELBS Edn.
3. Mechanical workshop practice, K.C. John, 2010, PHI Learning Pvt. Ltd.
4. Workshop Processes, Practices and Materials, Bruce J Black 2005, 3rd Edn., Editor Newnes [ISBN: 0750660732]
5. New Engineering Technology, Lawrence Smyth/Liam Hennessy, The Educational Company of Ireland [ISBN: 0861674480]

SEC IV (A) Skill Enhancement Course

B. Semiconductor Devices Application Skill

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=25, ESE=25*)**

Learning Objectives: *This course is aimed to introduce the students to the working characteristics comparing the performances of various types of semiconductor devices. Therefore, after completing this course they will gain experience of soldering of electronics circuits, constructing DC regulated power upplies, etc.*

Unit I Semiconductor Diodes **(10 Lectures)**

Construction, working and characteristics of different types of P-N junction diodes, Construction, working and characteristics of Zener diode, Construction, working and characteristics of Photo diode and Varactor diode.

Unit II Field Effect Transistors **(5 Lectures)**

Construction, working and characteristics of JFET, Construction, working and characteristics of MOSFET

Unit III Rectifiers **(5 Lectures)**

Block diagram of power supply, half wave rectifier, Full wave rectifier, ripple factor and efficiency of half and Full wave rectifiers

Unit IV Thyristor and UJTs **(10 Lectures)**

Construction, working and characteristics of SCR and Construction, working and characteristics of UJT.

Hands on Exercises:

1. Study and compare the V-I Characteristics of various types of P-N junction diodes (e.g. general purpose, LEDs, Zener Diode, etc.)
2. Study and compare the working of Photo diode and Varactor diode
3. Study and compare the working properties of the *n*-channel and *p*-channel JFETs
4. Study and compare the working properties of the *n*-channel and *p*-channel MOSFETs
5. Construct and test the performance of a FET Amplifier
6. Study the working of half wave rectifier and determine ripple factor for different R, L, C filters
7. Study the working of full wave rectifier and determine ripple factor for different R, L, C filters
8. Study of SCR characteristics
9. Study of UJT characteristics
10. Construct UJT based free running oscillator and change its frequency.
11. Construct a test circuit of SCR using UJT triggering

Reference Books:

1. Electronic Principles: *A P Malvino*, Tata Mc. Graw Hill Pub. Co. Ltd.
2. Basic Electronics (Solid State): *B L Theraja*, S. Chand Publishing
3. Principles of Electronics: *V K Mehta and Rohit Mehta*, S. Chand Publishing
4. Thyristors and their Applications*: M. Ramamoorty*, Macmillan Press Limited 1977

P-XVI DSCPP I (Section A & B): Practicals Based on Theory Paper Nos. P-XII & XIV

(*Assessment to be done at the end of VIth Semester i.e., Annual Pattern*)

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

1. Coefficient of viscosity by oscillating disc method
2. Determination of Rydberg's constant
3. Hartmann's dispersion formula
4. Temperature of flame
5. Cauchy's constant by using spectrometer
6. Conductivity by Forbe's method
7. Determination of Planck constant (h) by photo cell.
8. e / m by Thomson's method
9. Determination of resolving power of prism
10. Diffraction at Cylindrical Object: Determination of Wavelength
11. Thermal conductivity of an insulator by Lee's disc method.
12. Resolving power of grating
13. Y By Konings Method
14. To Study the Spectral Characteristics of a photovoltaic solar cell
15. To determine the wavelength of H-alpha emission line in Hydrogen spectrum

Note: Every student is required to perform **at least twelve (12) practicals** out of seventeen experiments in semesters V and VI. They have to complete the record book / journal listing atleast 12 experiments and have to submit/present before the panel of examiners at the time of their practical examination.

P-XVII DSEPP I (Section A & B) - Practicals Based on Theory Paper Nos. P-XIII & XV

(*Assessment to be done at the end of VIth Semester i.e., Annual Pattern*)

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Practicals Based on Discipline Specific Elective DSEP I (Section A)

i. Elective – A: Solid State Physics (P-XIII A)

1. To study the Hysteresis curve of the transformer core
2. Study of variation of thermo e.m.f. as a function of temperature
3. Study of CRO Measurement of frequency and voltage sensitivity
4. Determination of electrical conductivity of graphite rod
5. Determination of temperature coefficient of thermister
6. Study of energy bad gap of a semiconductor
7. Determination of Planck constant (h) by LED
8. Comparison of capacity by Method of mixture
9. I-H curve by Magnetometer method
10. To measure resistivity of semiconductor by four probe method
11. Determination of crystal structure using Laue pattern
12. Determination of crystal structure by rotating crystal method

ii. Elective – B: Astrophysics (P-XIII B)

1. To determine mass of the Jupiter by studying revolution of its moons using the CLEA software
2. To study radiation pattern of the Sun and hence estimate effective surface temperature and luminosity of the Sun.
3. Estimating first-order atmospheric extinction of starlight using given data
4. Measuring sky brightness using solid state photometer
5. Studying solar limb darkening effect
6. Temperature of an artificial star
7. Photoelectric photometry of stars using CLEA software
8. Measuring distance to Moon by parallax method.
9. Identifying and measuring diameters of Craters on the Moon surface.
10. Measurement of distance of star clusters by main sequence fit method
11. Observing Sun sun-spots and measuring their diameter

Note: Every student is required to perform **at least six (06) experiments** from the list given above corresponding to the elective paper (Elective I) offered to him for semester V. This will form half part of the practical paper P-XVII (**DSEP I), while the remaining half will be the laboratory work corresponding to the elective paper offered to him during semester VI. Performance of the students for both these electives as a practical paper P-XVII will be assessed at the end of semester VI by a panel of external examiners. They are required to submit the journal / record book indicating atleast 12 experiments, o6 from each elective at semester V and VI, at the time of practical examination.**

Practicals Based on Discipline Specific Elective DSEP I (Section B)

i. Elective – A: Digital and Communication Electronics (P-XV A)

1. Verification of truth table of basic gates (AND, OR, NOT) using ICs.
2. Construction of basic gates (AND, OR, NOT) using NAND gates
3. Construction of basic gates (AND, OR, NOT) using NOR gates
4. Construction and study of half adder using NAND gates.
5. Construction and study of full adder using NAND gates.
6. Implementation of Boolean expression from the given truth table using K- map.
7. Study of Colpits oscillator
8. Study of Hartley Oscillator
9. Study of low pass and high pass filter using resistance and capacitance
10. Clipper and Clamper circuits
11. Study of A.M. Modulator
12. Study of A.M. Demodulator

ii. Elective – B: Fiber Optic Communication (P-XV B)

1. Demonstrate the use of fiber optic trainer kit
2. Identify the recourses and their uses on the given fiber optical trainer kit
3. Make optical fiber setup to transmit and receive analog and digital data
4. Demonstrate FM modulation and demodulation using OFC trainer kit using audio signal and voice link
5. Demonstrate PWM modulation and demodulation using OFC trainer kit using audio signal and voice link
6. Demonstrate PPM modulation and demodulation using OFC trainer kit using audio signal and voice link
7. Studying loss pattern of power due to transmission of signal through fibers of different lengths
8. Studying loss of power due to the bending of optical fibers

Note:

1. Every student is required to perform **at least six (06) experiments** from the list given above corresponding to the elective paper (Elective II) offered to him for semester VI. This will form half part of the practical paper P-XVII (**DSEPP I), while remaining half will form the laboratory work corresponding to the elective paper offered to him during semester V. Performance of the students for both these electives as a practical paper P-XVII will be assessed at the end of semester VI by a panel of external examiners. They are required to submit the journal / record book indicating atleast 12 experiments, o6 from each elective at semester V and VI, at the time of practical examination.**

2. **Assessment of the Skill Enhancement (SEC) papers: Continuous Assessment** of the SEC I and II includes Test / Tutorial of 15 marks on the theory aspect and Seminar of 10 marks (Test 15 + Seminar 10 =25), while remaining 25 marks will be on the basis of the performance of the student in the End Semester Examination (ESE) in the form of seminar / practical work to be conducted by a pair of external examiners at the end of Semester IV

(***Dr. M. K. Patil***)
Chairman,
BOS in Physics

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR
ACADEMIC (1-BOARD OF STUDIES) SECTION
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ०८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.११/४४–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

1. Agricultural Microbiology
2. Agrochemicals & Fertilizers
3. Analytical Chemistry
4. B.C.A.
5. B.Voc. (Food Processing, Preservation and Storage)
6. B.Voc. (Web Printing Technology)
7. Biochemistry
8. Bioinformatics
9. Biophysics
10. Biotechnology (Vocational)
11. Biotechonology
12. Botany
13. Chemistry
14. Computer Application (Optional)
15. Computer Science (Optional)
16. Computer Science
17. Dairy Science
18. Dyes and Drugs
19. Electronics
20. Environmental Science
21. Fishery Science
22. Food Science
23. Geology
24. Horticulture
25. Industrial Chemistry
26. Information Technology (Optional)
27. Mathematics
28. Microbiology
29. Network Technology
30. Physics
31. Software Engineering
32. Statistics
33. Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/२९२
दिनांक : ०३.०७.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MATHAWADA UNIVERSITY, NANDED

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

B. Sc. First YearPhysics Syllabus (CBCS Pattern)

(Effective from 2019-2020)

Disclaimer

*The Syllabus of **B. Sc. Physics First Year (Semester I and II)** given here is prepared according to the Choice Based Credit System (CBCS) pattern of **S.R.T.M. University** following the guidelines of **UGC, New Delhi,** and has been duly approved by the BOS in Physics, the Faculty of Science and Technology and the Academic Council of the University.*

Preamble:

Swami Ramanand Teerth Marathwada University, Nanded, following the directives of the **University Grants Commission, New Delhi (UGC)**, has been taking several measures for improving quality of higher education in its jurisdiction. Few of the major steps in this regard include the improvement and revision of the curricula of various programmes offered by it in tune with the courses at national and international level, implementing innovative methods in teaching-learning processes, imparting skill based value added education, improvisation in the examination and evaluation processes, etc. These measures are very much useful in achieving **3Es, the *equity, efficiency and excellence*** in higher education of this region.

Following directives of UGC, New Delhi, this University has decided to adopt the ***cumulative grade point average*** **(CGPA)** for assessing academic performance of the students in the university examinations from the academic year 2014-2015. Further, following the suggestions by the UGC and looking at the better employability, entrepreneurship possibilities and also to enhance the latent skills of the students SRTMU has also adopted the ***Choice Based Credit System*** **(CBCS)** at graduate as well as post-graduate level. The CBCS system offers flexibility to the students in choosing courses of their own choice from the exhaustive list comprising core, elective/minor or skill based components that are evaluated following the grading system. In the coming academic year 2019-2020 the University shall be implementing the first revision of the B. Sc. First Year Physics syllaus under the CBCS system. This document provides detailed information on the structure of the B Sc Physics course along with the evaluation process and the available choice to the science graduates with Physics as one of the course at the B. Sc. Program.

The revised courses given in this document are of student-centric nature and help the stakeholders to understand the basic laws of nature and develop necessary skills to apply them to the advanced areas of studies. There are few core or mandatory courses meant to provide adequate knowledge of the basic courses of physics such as principles of cooling and liquification of gasses, thermodynamics, theoretical physics, AC current, part of industrial electronics and enable the students to apply them to the advanced courses as well as in industrial and research related fields. The theory courses are also supplemented by the respective laboratory hands-on courses, which provide the students with the first hand do it yourself kind of training and enable them to understand the Physics principles at deeper level. This also enables the students to develop their keen interest in studying Physics. In addition to the core courses

there will be elective courses as well as skill enhancement courses of advanced nature and help the students to develop their skills through hands-on activities as they progress in the program. Details of the courses offered as a part of the B. Sc. Physics program are given below.

Outline of the Choice Based Credit System:

1. Core or Compulsory Courses: Every student graduating in Science faculty with Physics as one of the optional subject is required to **study t**hese theory and practical papers as core or compulsory courses. There shall be two such theory papers (P-I and P-II, each of 02 credits), one each in Semester I and II, whose performance shall be assessed at the end of the respective semesters. There shall be one practical course corresponding to both these compulsory courses, however, the performance of the candidates in the practical course shall be assessed on the annual basis i.e., at the end of the Semester II by a pair of external examiners appointed by the University.

2. Elective Courses: Students have freedom to choose an advanced course of their interest and inclination from a pool of courses made available by the university for a particular semester. The elective courses are mostly offered from third semester onwards and are of specific or specialized or advanced nature designed such that the students after completing these courses shall be able to expand their knowledgebase. These elective courses will also be supplemented by practical courses.

3. Skill Enhancement Courses (SEC): These courses are aimed at providing hands-on-training, competencies, skills, etc. to the students. As these courses are primarily of hands-on-training type, therefore, students are expected to devote much of their time in laboratory activities rater than the conventional classroom teaching. Therefore, one-third of the time allocated to this course will be utilized for the classroom teaching, imparting instructions, etc., while remaining two-third will be utilized by the students in developing their skills through the hands-on exercises. The exercises to be undertaken for this purpose shall be of different nature than that of their regular laboratory / practical courses. There shall be two such skill enhancement courses, one each in semester V and VI, which shall be selected by the students depending on their choice and inclination. Performance of the students in these courses shall be assessed at the end of the semester VI following annual pattern by a pair of external examiners along with their practical courses.

4. **Laboratory/Practical Courses**: Every students studying in B Sc First Year (Semester I and II) is required to complete two laboratory / practical courses (Paper Nos. P-?? and P-??), which shall be assessed / examined at the end of the Semester-II (annual pattern).

The B. Sc. Physics First Year (Semester I and II) syllabus given in this document was prepared by different subcommittees constituted in the meeting of the BOS in Physics held on 10th April 2018 and was finalized after due consent from all the respected members. The BOS has also invited comments, suggestions, corrections on the draft syllabus from all the Physics teachers affiliated to this university, which were later incorporated while finalizing the syllabus of B. Sc. Physics First Year program.

(Dr. M. K. Patil)
Chairman,
Board of Studies in Physics

B. Sc. Physics F. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
I	CCP I (Section A)	Mechanics and Properties of Matter (P-I)	03	45	10	40	50	2
	CCP I (Section B)	Mathematical Methods in Physics (P-II)	03	45	10	40	50	2
II	CCP II (Section A)	Heat and Thermodynamics (P-III)	03	45	10	40	50	2
	CCP II (Section B)	Electricity and Magnetism (P-IV)	03	45	10	40	50	2
Practical Paper	CCP P I (Annual Pattern)	P-V :Practicals based on Section A &B of CCP-I& II	04	60	20	80	100	4
	Total Credits of Semester I and II							12

B. Sc. Physics S. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
III	CCP III (Section A)	Waves and Oscillations (P-VI)	03	45	10	40	50	2
	CCP III (Section B)	Statistical Physics, Electromagnetics and Theory of Relativity (P-VII)	03	45	10	40	50	2
	CCPS I (Section A)	Skill Enhancement Course I (SEC I)	03	45	25	25	50	2
IV	CCP IV (Section A)	Optics and Lasers (P-VIII)	03	45	10	40	50	2
	CCP IV (Section B)	Basic Electronics (P-IX)	03	45	10	40	50	2
	CCPS I (Section B)	Skill Enhancement Course II (SEC II)	03	45	25	25	50	2
Practical Papers (Annual Pattern)	CCPP II (Annual Pattern)	P-X :Practicals based on Section A of CCP-III & IV	03	45	25	25	50	2
	CCPP III (Annual Pattern)	P-XI :Practicals based on Section B of CCP-III & IV	03	45	25	25	50	2
	Total Credits of Semester III and IV							16

MSA - Mid Semester Assessment **ESA – End Semester Assessment**

CCP – Core Course Physics **CCPP – Core Course Physics Practical**

B. Sc. Physics T. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
V	DSEP I (Section A)	Quantum Mechanics (P-XII)	03	45	10	40	50	2
	DSEP II (Section B) (Elective Course)	Solid State Physics (P-XIII A) OR Solar Energy (P-XIII B) OR Astrophysics (P-XIII C)	03	45	10	40	50	2
	DSEPP I (Section A)	Practicals Based on P-XII (P-XVI)	03	6 pract 24 hours	05	20	25	1
	DSEPP II (Section A)	Practicals Based on P-XIII (P-XVII)	03	6 pract 24 hours	05	20	25	1
	SEC III	Renewable energy & harvesting OR Electrical Ckt Analysis Skill	03	45 Hands-on	25	25	50	2
VI	DSEP II (Section A)	Atomic and Molecular Physics (P-XIV)	03	45	10	40	50	2
	DSEP II (Section B) (Elective Course)	Digital & Communication Electornics (P-XV A) OR Linear & Digital Electronics Circuits (P-XV B) OR Fibre Optics Communication (P-XV C)	03	45	10	40	50	2
	DSEPP I (Section B)	Practicals Based on P-XIV (P-XVI)	03	6 pract 24 hours	05	20	25	1
	DSEPP II (Section B)	Practicals Based on P-XV (P-XVII)	03	6 pract 24 hours	05	20	25	1
	SEC IV	Physics Workshop Skill OR Semiconductor Devices Applications Skill	--	45 Hands-on	25	25	50	2
	Total Credits of Semester V and VI							16

MSA - Mid Semester Assessment

ESA – End Semester Assessment

DSEP – Discipline Specific Elective Paper

DSEPP – Discipline Specific Elective Paper Practical

SEC – Skill Enhancement Course

CCP I - (Section A) P-I Core Course: *Mechanics and Properties of Matter*

Credits: 02	*Periods*: 45	*Total Marks:* 50 (*CA=10, ESE=40*)

Learning objectives: *The objective of this course is to introduce the students to the world of mechanics and properties of the matter that exists in different phases i.e., solid, liquid and gas. Laws of motion and its applications to various systems studied in this paper is of fundamental nature and enable the students to handle different types of problems and is the pre-requisite for several other advanced courses in physics and chemistry. The pre-requisite for this course is knowledge of calculus, wave theory and modern physics. This course is the core course and every student pursuing B Sc with physics as one of the optional is required to study this course.*

Unit I: Mechanics **(12 Periods)**

Laws of Mechanics (Newton's Laws of Motion), Newton's Law of Gravitation, Keplar's Law of Planetary Motion, Gravitational Field, Gravitational Intensity, Gravitational Potential, Gravitational Potential energy, Conservation Law, Work, Power, Kinetic Energy (Work Energy Theorem), Conservation of energy for a particle energy function, Motion of a body near the surface of earth, Types of conservative and non- conservative forces

Unit–II: Surface Tension **(08 Periods)**

Molecular Forces, Surface Tension & its explanation, Pressure difference across a curved surface, Expression for Excess Pressure inside a Spherical Drop and spherical Soap Bubble, Surface Tension by Jaeger's Method, Surface Tension by Ferguson Method.

Unit- III: Viscosity **(10Periods)**

Introduction, Coefficient of Viscosity, Streamline flow, critical velocity, Reynolds Number & its significance, Bernoullies Theorem, Poiseuille's equation for the flow of liquid through a tube, Experimental determination of coefficient viscosity by Poiseuille's Method.

Unit- IV: Elasticity **(15 Periods)**

Introduction, Hooke's Law, Elastic Constants (**Y, K & ή**), Poisson's Ratio, Twisting couple on a cylinder or a (wire), Torsional pendulum ,Bending of Beam, Bending Moment, Cantilever (Weight of the beam is ineffective, Weight of the beam is effective), Depression of a Beam supported at the ends and loaded at the Centre, Determination of Y by bending of beam.

Books Recommended:

1. Elements of Properties of Matter –D.S.Mathur, Shamlal Charitable trust, New Delhi.
2. General Properties of Matter – J. C. Upadhyaya, Ram Prasad & Sons, Agra.
3. **Mechanics**- J. C. Upadhyaya, Ram Prasad & Sons, Agra.

CCP I - (Section B) P-II Core Course: *Mathematical Methods in Physics*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning objectives: *This course is also aimed to develop knowledge in mathematical physics and its applications, to develop expertise in mathematical methods required in the study of Physics, to develop critical thinking and problem solving skill.After completion of this course students will be able to apply the concept of vectors and complex variables to various physical quantities. This course will also enable the students to solve the problems related to partial differentiation. Fourier Analysis unit will enable the studetns to analyze the periodic functions.*

Unit I: Complex variables **(10 Periods)**

Introduction, Definition, complex algebra (Addition, Subtraction, Multiplication, Division, conjugate complex number), Argand diagram, Graphical representation of Sum, Difference, product and Quotient of complex number, Properties of moduli ,arguments and geometry of complex numbers, Rectangular, polar and exponential form of complex numbers.

Unit–II: Vector Analysis **(15 Periods)**

Introduction to Scalars, Vectors, Dot products and Cross Product of two vectors, Vector triple product, Scalar triple product, Scalar and vector field , Gradient of a scalar field , Divergence of a vector field and Curl of a vector field and their Physical interpretation , Laplacian Operator (∇^2), Line integral, Surface integral, Volume integral, Gauss's divergence theorem, Stoke's theorem, (Statements only),Vector identities.

Unit –III: Partial Differentiation **(10 Periods)**

Definition of Partial Differentiation, Order or Successive Differentiation, total Differentiation and Chain rule, Change of variables from Cartesian to Polar Co-ordinates, Condition for maxima and minimum (without proof), Linear Homogeneous Partial differential equations with constant coefficients, Rules for finding the complementary function.

Unit -IV: Fourier series **(10 Periods)**

Introduction of Periodic Functions, Definition of Fourier Series, Evaluation of the coefficients of Fourier series, Cosine series, Sine series, Dirichlet's Conditions, Graphical representations of even and odd functions, Advantages of Fourier series, Physical applications of Fourier series analysis: Square wave and half wave Rectifier.

Books Recommended:

1. Vector Analysis - Murray R. Spigel
2. Mathematical Physics - B.S. Rajput
3. Mathematical Physics- B.D. Gupta (Vikas publishing House)
4. Methods of Mathematical Physics by Laud Talbout and Gambhir
5. Mathematical methods in Physical Sciences- Masy and Bias.
6. Mathematics For Engineers and Physists – Pipe
7. Advance Engineering Mathematics by H.K.Dass(S.Chand Publication)
8. Mathematics For Engineers and Physists- Pipe

CCP II - (Section A) P-III Core Course: *Heat and Thermodynamics*

Credits: 02	*Periods*: 45	*Total Marks:* 50 (*CA=10, ESE=40*)

Learning objectives: *This course will introduce the students to the world of heat and thermodynamics and the behaviour of the physical systems at different thermodynamical conditions. After completing this course students will understand the difference in the behaviour of the ideal and real gases, transport phenomenon in gases. Students will also understand the working of various heat engines and the ways to increase their working efficiency.*

Unit–I: **Thermometry** **(12 Periods)**

Types of Thermometers, Centigrade and Fahrenheit scale, relation between Celsius, Kelvin, Fahrenheit & Rankine scales, Platinum resistance thermometer, Seebeck effect.

Unit –II: Real Gases and Their Behavior **(12Periods)**

Behavior of gases at high pressure, Boyle temperature, Andrew's Experiment on CO_2, Amagat's Experiment, Vander wall's Equation of State, Critical Constants, Corresponding states, Coefficients of Vander wall's Equation, Reduced Equation of State, Joule Thomson Porous Plug Experiment, Temperature of Inversion, Relation between Boyle temperature and Temperature of Inversion

Unit–III: Transport Phenomenon in Gases **(9 Periods)**

Molecular Collisions, Mean free path, Expression for mean free path, Transport Phenomena, Viscosity of Gases, Thermal Conductivity of Gases, Diffusion, Inter relation between three transport coefficients.

Unit-IV: Thermodynamics and Thermodynamical Relations **(12Periods)**

First Law of Thermodynamics, Relation connecting P, V and T in an Adiabatic Process, Second Law of Thermodynamics (Kelvin and Clausius statements), Carnot's cycle, Carnot's heat Engine, Carnot's Theorem, Entropy, Entropy of Irreversible processes entropy of reversible process, Third Law of Thermodynamics. Internal energy, Helmholtz' function, Enthalpy, Gibb's function, Maxwell's Thermodynamical Relations, **T- dS** equations, Clausius-Clapeyron latent heat equations.

Books Recommended:

1. Heat and Thermodynamics – Brij Lal, N.Subrahmanyam, P. S.Hemne For B. Sc. Students as per UGC Model Syllabus, Sultan Chand & Company Ltd.
2. Heat and Thermodynamics – D.S.Mathur, Sultan Chand & Sons, New Delhi
3. Thermodynamics and Statistical Physics – S.L.Kakani
4. Thermodynamics, Kinetic Theory, and Statistical Thermodynamics – Sears and Salinger, Narosa Publishing House, New Delhi.

CCP II - (Section B) P-IV Core Course: *Electricity and Magnetism*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning objectives: *The objective of this course is to introduce the students to the concepts of static and dynamical electrical magnetic fields, the sources for generating such fields, polarization and induction effects, understand the basic difference between the DC and AC circuits and their functioning. This course is of most applied nature and will enable the students to understand the role of electricity in everyday life, relate electrical conduction, vlate using Ohm's law and will also enable the students to understand the working principles of various electrical components and gadgets.*

Unit- I: Electrostatics and Magnetostatics (15 Periods)

Concept of electric field, electric flux, Gauss's law, conservative nature of electric filed, concept of electric potential, potential energy of a system of charges, energy density in an electric field.

Concept of Magnetic Field (**B**) and magnetic flux (Φ), Lorentz Force, Force on a current carrying conductor, Biot and Savert's Law, Applications of Biot-Savert's law to straight and circular current carrying conductor, Amperes circuital law (Integral form), Curl of magnetic field (Ampere's circuital law differential form). Motion of charged particles in uniform electric field, Motion of charged particle in magnetic field, Maxwell's displacement current.

Unit- II: Magnetization (9 Periods)

Introduction, Magnetic Induction (**B**), Flux density, Intensity of magnetization (**I**), Intensity of magnetizing field (**H**) Permeability, Susceptibility, Relation between Permeability and Susceptibility, Hysteresis curve, Brief introduction of ferromagnetic, paramagnetic and diamagnetic phenomenon, I-H curve By magnetometer method, Principle and construction of Moving coil type Ballistic Galvanometer with theory ($\mathbf{q} \propto \boldsymbol{\theta}$).

Unit- IV: Time Varying (Dynamic) Fields (Waves) (9 Periods)

Definition of electromagnetic induction, Faraday's Law of Electromagnetic Induction, Lenz's law, Self induction, Self induction of a Solenoid, Mutual induction, Mutual Induction of a pair of coil, Work done in establishing current in an inductance, Mutual inductance of a Co axial solenoids, Problems.

Unit–I: Alternating Current circuits (12 Periods)

Brief introduction to AC through Capacitor and Inductor, Nature of Impedance(z) and Reactance(**x**) of Inductance($\mathbf{z_L}$&$\mathbf{x_l}$),Capacitance($\mathbf{z_c}$&$\mathbf{x_c}$) and Resistance($\mathbf{z_R}$&$\mathbf{x_R}$), Complex number and J-operator, Complex Impedance and reactance, Application of Complex numbers in solving AC Circuit (Not vector diagram), L-C-R (Series resonance and Parallel resonance) circuits. Power in AC circuit and Power Factor, Principle, working and types of transformers (step up and step down with figures), Current, voltage and turns ratio of transformer, Efficiency of transformer, AC bridges (Wheatstone bridge).

Books Recommended:

1. Electricity and Magnetism –BrijLal, Subramanyan (RatanPrakashanMandir,Twentieath revised and enlarged edition 1997)
2. Fundamentals of physics- P.B.Patil (Renuka Prakashan, Aurangabad)
3. Electricity and Electronics – D.C.Tayal (Himalaya Publishing Co, Mumbai)
4. Electricity and Magnetism-Murugesan(S.Chand& Co.)

Reference Books

1. Electricity and Magnetism-K.K. Tiwari(S.Chand& Co.)
2. Electricity and Magnetism – Khare, Shrivastav (Twentieath revised 1997)
3. Introduction to Electrodynamics – D.G. Griffith (3rd edition Benjamin Cumming, 1998)
4. Electricity and Magnetism-E.M.Purcell, Berkley physics course, vol-2 (MGH)
5. Foundations of Electromagnetic theory- Reitz, Milford, Christey
6. Electromagnetics by Joseph A. Edminister 2nd edition (New Delhi: Mc Graw Hill, 2006)

CCPP I (Section A & B) : Laboratory Course (P-V) : *Physics Practical Paper*

Credits: 04	*Periods*: 4560 (Hands-on)	*Total Marks:* 100 (*CA=20, ESE=80*)

Learning Objectives: *Objective of this Laboratory course is to introduce the students to the practical applications of the four core courses in Physics that the students have studied in Semester I and II. The Laboratory course also includes experiments based on the computational methods applicable for solving problems in physical situations. The course will consist of lectures (both theory and practical) in the Computer Lab. Evaluation of the computational method does not include the programming skill of the students but will only analyze the basis of formulating the problem. Each student appearing for examination must produce a journal showing that he has completed not less than **12** experiments during the year; out of which at least two should be based on the computational methods.*

1. Y- by Spiral spring.

2. η - by Spiral spring.

3. η - by Static torsion.

4. η - by Maxwell's needle.

5. Y- by bending loaded at the middle.

6. Viscosity of given liquid by Poiseuille's method.

7. Surface Tension of liquid by Jaeger's method.

8. Determination of Viscosity of given liquid by Searle's Viscometer.

9. Field along the axis of Circular coil (Determination of radius of the coil)

10. Small resistance by Carry Fosters Bridge.

11. Ballistic galvanometer (Figure of merit)

12. Comparison of capacity by Desauty Method

13. Determination of angle of Prism by Spectrometer

14 Determination of Refractive Index of Prism by Spectrometer

15 Characteristics of P-N junction diode (forward and reverse)

16. Zener Diode Characteristics

17 Introduction to **SCILAB**, Advantages and disadvantages, **SCILAB** environment, Command Window, Figure window, Edit window, Variables and arrays, initializing variables inSCILAB.

18 Solving Simple Operations: Addition, Subtraction, Multiplication and division using **SCILAB**

29 Addition and subtractions of simple complex numbers using **SCILAB** software

20. Solving solution to first order differential partial differential equation using computer Software (**SCILAB**)

Question Paper Pattern
Semester End Assessment
B. Sc. Physics First and Second Semester (CBCS) Section A
Total Marks: 40

Note: All questions are compulsory and carry equal marks

Question 1 – Single long answer type question **15 marks**

OR

Two sub-questions (*a* and *b* of 8 & 7 marks) **15 marks**

(Note: This question will be based on Unit I & II)

Question 2 – Single long answer type question **15 marks**

OR

Two sub-questions (*a* and *b* of 8 & 7 marks) **15 marks**

(Note: This question will be based on Unit III & IV)

Question 3 – Write Short Notes on ANY TWO (each of 5 marks) **10 marks**

a.
b.
c.
d.

(Note: This question shall be based on entire syllabus and must have one sub-question from each of the unit)

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.११/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

1. B.Sc.-II Year-Biophysics
2. B.Sc.-II Year-Bioinformatics
3. B.Sc.-II Year-Biotechnology
4. B.Sc.-II Year-Biotechnology (Vocational)
5. B.Sc.-II Year-Food Science
6. B.Sc.-II Year-Botany
7. B.Sc.-II Year-Horticulture
8. B.Sc.-II Year-Agro Chemical Fertilizers
9. B.Sc.-II Year-Analytical Chemistry
10. B.Sc.-II Year-Biochemistry
11. B.Sc.-II Year-Chemistry
12. B.Sc.-II Year-Dyes & Drugs Chemistry
13. B.Sc.-II Year-Industrial Chemistry
14. B.C.A. (Bachelor of Computer Application)-II Year
15. B.I.T. (Bachelor of Information Technology)-II Year
16. B.Sc.-II Year-Computer Science
17. B.Sc.-II Year-Network Technology
18. B.Sc.-II Year-Computer Application (Optional)
19. B.Sc.-II Year-Computer Science (Optional)
20. B.Sc.-II Year-Information Technology (Optional)
21. B.Sc.-II Year-Software Engineering
22. B.Sc.-II Year-Dairy Science
23. B.Sc.-II Year-Electronics
24. B.Sc.-II Year-Environmental Science
25. B.Sc.-II Year-Fishery Science
26. B.Sc.-II Year-Geology
27. B.Sc.-II Year-Mathematics
28. B.Sc.-II Year-Microbiology
29. B.Sc.-II year Agricultural Microbiology
30. B.Sc.-II Year-Physics
31. B.Sc.-II Year Statistics
32. B.Sc.-II Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**३३३**
दिनांक : १५.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MATHAWADA UNIVERSITY, NANDED

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

B. Sc. Second Year Physics Syllabus
(CBCS Pattern)
(Effective from 2020-2021)

Disclaimer

*Syllabus of **B. Sc. Second Year (Semesters III and IV) Physics** given in this document was prepared following requirements of the **Choice Based Credit System (CBCS)** pattern, as recommended by **UGC, New Delhi,** and has been duly approved by the **Faculty of Science and Technology, the Academic Council** and the **Management Council** of **S.R.T.M. University**. The same has been implemented from the academic year **2020-2021**.*

The Board of Studies in Physics of S. R. T. M. University, Nanded

Dr. M. K. Patil, ***Chairman,*** Professor, School of Physical Sciences, S.R.T.M. University, Nanded Contact: 08308298063 Email: patil@associates.iucaa.in	**Dr. S. N. Keshatti,** Department of Physics, Shivaji Mahavidyalaya, Parbhani Contact No. 9422743448 Email: keshatti.shrinivas@gmail.com
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Mr. Dayanand Mane, Yog Kunj, 15, Sudashan Nagar, Pipri Meghe, Wardha Contact No.	**Dr. K. M. Jadhav,** *Professor*, Department of Physics, Dr.B.A.M.University, Aurangabad Contact No. 09422686061 Email: drjadhavkm@gmail.com
Dr. Tarun Sourdeep Ghosh, *Professor H*, IUCAA, Ganeshkhind, Pune Contact No. 020 25604212 Email: tarun@iucaa.in	**Dr. A. G. Bidwe,** Professor & Registrar, Sharanbasawa University, Kalburgi, Karnataka Contact No. 09243219188, Email: agbidve@gmail.com
Ms. Aishwarya V. Patil, *Invitee Member, Student Representative (UG)*	**Mr. Nand Kiran Kishor,** *Invitee Member, Student Representative (PG)*

Preamble:

Swami Ramanand Teerth Marathwada University (SRTMU), Nanded, following the directives of the **University Grants Commission, New Delhi (UGC)**, has been taking several measures for improving quality of higher education in its jurisdiction. Few of the major steps in this regard include the improvement and revision of the curricula of various programmes offered by it in tune with the courses at national and international level, implementing innovative methods in teaching-learning processes, imparting skill based value added education, improvisation in the examination and evaluation processes, etc. These measures are very much useful in achieving **3Es, the *equity, efficiency and excellence*** in higher education of this region.

Following directives of the UGC, New Delhi, SRTMU has decided to adopt the ***cumulative grade point average*** **(CGPA)** for assessing academic performance of the students in the university examinations from the academic year 2014-2015. Further, subsequent to the suggestions by UGC and looking at the better employability, entrepreneurship possibilities and also to enhance the latent skills of the students SRTMU has also adopted the ***Choice Based Credit System*** **(CBCS)** at graduate as well as post-graduate level. The CBCS system offers flexibility to the students in choosing courses of their own choice from the exhaustive list comprising core, elective/minor or skill based components that are evaluated following the grading system. From the academic year 2020-2021 SRTMU shall be implementing the first revision of the **B. Sc. Second Year (Semester III and IV) Physics** syllabus in the colleges affiliated to it and will be based on the CBCS method. This document provides detailed information on the structure and content of B.Sc. S. Y. (Semester III and IV) Physics syllabus together with the evaluation process and the available choice to the science graduates with Physics as one of the course at the B. Sc. Program.

The revised courses given in this document are of student-centric nature and help the stakeholders to understand the basic laws of nature and develop necessary skills to apply them to the advanced areas of studies. There are few core or mandatory courses meant to provide adequate knowledge of the basic courses of physics such as principles of waves and oscillations, statistical mechanics, electromagnetism, optics and electronics and enable the students to apply them to the advanced courses as well as in industrial and research related fields. The theory courses are also supplemented by the respective laboratory / hands-

on courses, which provide the students with the first hand, do it yourself training and enable them to understand the Physics principles at deeper level. This also enables the students to develop their keen interest in studying Physics. In addition to the core courses there will be elective courses as well as skill enhancement courses of advanced nature and help the students to develop their skills through hands-on activities as they progress in the program. Details of the courses offered as a part of the B. Sc. Physics program are given below.

Outline of the Choice Based Credit System:

1. Core or Compulsory Courses: Every student graduating in Science faculty with Physics as one of the optional subject is required to study these theory and practical papers as core or compulsory courses. There shall be two such theory papers in each Semester III and IV, whose performance shall be assessed at the end of the respective semesters. There shall be one practical course corresponding to both these compulsory courses, however, the performance of the candidates in the practical course shall be assessed on the annual basis i.e., at the end of the Semester IV by a pair of external examiners appointed by the University.

2. Elective Courses: Students have freedom to choose an advanced course of their interest and inclination from a pool of courses made available by the university for a particular semester. The elective courses are mostly offered from third semester onwards and are of specific or specialized or advanced nature designed such that the students after completing these courses shall be able to expand their knowledgebase. These elective courses will also be supplemented by practical courses.

3. Skill Enhancement Courses (SEC): These courses are aimed at providing hands-on-training, competencies, skills, etc. to the students. As these courses are primarily of hands-on-training type, therefore, students are expected to devote much of their time in laboratory activities rather than the conventional classroom teaching. Therefore, one-third of the time allocated to this course will be utilized for the classroom teaching, imparting instructions, etc., while remaining two-third will be utilized by the students in developing their skills through the hands-on exercises. The exercises to be undertaken for this purpose shall be of different nature than that of their regular laboratory / practical courses. There shall be two such skill enhancement courses, one each in semester III and IV, which shall be selected by the students depending on their choice and inclination. Performance of the students in these courses shall be assessed at the end of the semester IV following annual pattern by a pair of external examiners along with their practical courses.

4. **Laboratory/Practical Courses**: Every students studying in B Sc Second Year (Semester III and IV) is required to complete two laboratory / practical courses (Paper Nos. P-X and P-XI) and shall be assessed / examined at the end of the Semester-IV (annual pattern).

B. Sc. Second Year Physics (Semester III and IV) syllabus given in this document was prepared by different subcommittees constituted in the meeting of the BOS in Physics held on 14th February 2020 and was finalized after due consent from all the respected members. The BOS has also invited comments, suggestions, corrections on the draft syllabus from all the Physics teachers affiliated to this university and also have taken feedback from the student representatives, which were then incorporated in the final draft of the B. Sc. Physics Second Year program and are given in this document. This syllabus was then put before and was approved by the Faculty of Science and Technology and the Academic Council of the University. This syllabus will be implemented from the academic year 2020-2021.

(**Dr. M. K. Patil**)
Chairman
Board of Studies in Physics

Structure and Marking Scheme of B. Sc. Physics Programme

B. Sc. Physics F. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
I	CCP I (Section A)	Mechanics and Properties of Matter (P-I)	03	45	10	40	50	2
	CCP I (Section B)	Mathematical Methods in Physics (P-II)	03	45	10	40	50	2
II	CCP II (Section A)	Heat and Thermodynamics (P-III)	03	45	10	40	50	2
	CCP II (Section B)	Electricity and Magnetism (P-IV)	03	45	10	40	50	2
Practical Paper	CCP P I (Annual Pattern)	P-V :Practicals based on Section A &B of CCP-I& II	04	60	20	80	100	4
	Total Credits of Semester I and II							12

B. Sc. Physics S. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
III	CCP III (Section A)	Waves and Oscillations (P-VI)	03	45	10	40	50	2
	CCP III (Section B)	Statistical Physics, Electromagnetics and Theory of Relativity (P-VII)	03	45	10	40	50	2
	CCPS I (Section A)	Skill Enhancement Course I (SEC I)	03	45	25	25	50	2
IV	CCP IV (Section A)	Optics and Lasers (P-VIII)	03	45	10	40	50	2
	CCP IV (Section B)	Basic Electronics (P-IX)	03	45	10	40	50	2
	CCPS I (Section B)	Skill Enhancement Course II (SEC II)	03	45	25	25	50	2
Practical Papers (Annual Pattern)	CCPP II (Annual Pattern)	P-X :Practicals based on Section A of CCP-III & IV	03	45	10	40	50	2
	CCPP III (Annual Pattern)	P-XI :Practicals based on Section B of CCP-III & IV	03	45	10	40	50	2
	Total Credits of Semester III and IV							16

MSA - Mid Semester Assessment
ESA – End Semester Assessment
CCP – Core Course Physics
CCPP – Core Course Physics Practical

B. Sc. Physics T. Y. (CBCS) Course Structure and Marking Scheme

Semester	Paper No.	Name of the Course	Contact		Assessment Scheme			Credits
			Lect/wk (L+T)	Total Hrs	MSA	ESA	Total Mark	
V	DSEP I (Section A)	Quantum Mechanics (P-XII)	03	45	10	40	50	2
	DSEP II (Section B) (Elective Course)	Solid State Physics (P-XIII A) OR Solar Energy (P-XIII B) OR Astrophysics (P-XIII C)	03	45	10	40	50	2
	DSEPP I (Section A)	Practicals Based on P-XII (P-XVI)	03	6 pract 24 hours	05	20	25	1
	DSEPP II (Section A)	Practicals Based on P-XIII (P-XVII)	03	6 pract 24 hours	05	20	25	1
	SEC III	Renewable energy & harvesting OR Electrical Ckt Analysis Skill	03	45 Hands-on	25	25	50	2
VI	DSEP II (Section A)	Atomic and Molecular Physics (P-XIV)	03	45	10	40	50	2
	DSEP II (Section B) (Elective Course)	Digital & Communication Electornics (P-XV A) OR Linear & Digital Electronics Circuits (P-XV B) OR Fibre Optics Communication (P-XV C)	03	45	10	40	50	2
	DSEPP I (Section B)	Practicals Based on P-XIV (P-XVI)	03	6 pract 24 hours	05	20	25	1
	DSEPP II (Section B)	Practicals Based on P-XV (P-XVII)	03	6 pract 24 hours	05	20	25	1
	SEC IV	Physics Workshop Skill OR Semiconductor Devices Applications Skill	--	45 Hands-on	25	25	50	2
	Total Credits of Semester V and VI							16

MSA - Mid Semester Assessment

ESA – End Semester Assessment

DSEP – Discipline Specific Elective Paper

DSEPP – Discipline Specific Elective Paper Practical

SEC – Skill Enhancement Course

CCP III - (Section A) P-VI Core Paper: *Waves and Oscillations*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning objectives: *The objective of this course is to introduce the students to the concepts of mechanical waves, their properties, propagation and reflection properties, formation of standing waves, their applications in resonance tubes, energy distribution in the standing waves, free and forced vibrations, acoustics and acoustical designs and also introduces the students to the concepts of ultrasonic waves and their applications. This course is the pre-requisite for several advanced courses in physics and chemistry and is necessary for understanding the behavior of the mater when mechanical waves passes through them. Pre-requisite for this course is the knowledge of elementary mathematics and calculus, wave theory, etc. This forms the core course of the programmes and every student pursuing B Sc with physics as one of the optional is required to study this course.*

Unit –I Waves **(10 Periods)**

Wave velocity and particle velocity, Differential equation of wave motion, Energy of a plane progressive wave, Equation of motion of a vibrating string, Frequency and period of vibration of a string

Unit—II Stationary waves **(11 Periods)**

Analytical treatment of stationary waves (closed end & open end pipe at the other end), Investigation of pressure and density changes at displacement, Nodes and Antinodes, Distribution of Energy in a stationary wave, Energy is not transferred in a stationary waves.

Unit - III Free and Forced Vibrations **(12Periods)**

Free Vibrations, Undamped vibrations, Damped Vibrations. Damped SHM in an electrical circuit. Forced Vibrations, Resonance and Sharpness of Resonance, Phase of Resonance ,Examples of forced and resonant vibrations

Unit –IV Acoustics and Ultrasonics **(12 Periods)**

Reverberation, Reverberation time, Derivation of Reverberation Time (Sabine's formula), Absorption coefficient, Determination of absorption coefficient, Acoustic measurements, Conditions for good acoustical designs of an auditorium, Ultrasonics, Piezoelectric Oscillator, Magnetostriction Oscillator, Detection of ultrasonic waves, Acoustic grating, Application of Ultrasonic Waves

Books Recommended:

1. Waves and Oscillations – Brijlal and Subrahmanyam. (Vikas Publishing House)
2. Text Book of Sound with Theory of Oscillations and waves – D. R. Khanna and R. S. Bedi. (Atma Ram & Sons Delhi)
3. A text book of Sound - N. Subrahmanyam, Brijlal
4. Sound - M. Ghosh
5. Text Book of Sound - Sharma & Saxena (New Age international publishers)
6. Physics of Vibrations & Waves - H.J.Pain (John Wiley & Son)

CCP III - (Section B) P-VII Core Paper: *Statistical Physics, Electromagnetics and Theory of Relativity*

Credits: 02	*Periods*: 45	*Total Marks:* 50 (*CA=10, ESE=40*)

Learning objectives: *The objective of this course is to introduce the students to the concepts of macroscopic world, statistical approaches for understanding properties of the macroscopic bodies, ensembles, their classification on the basic of macroscopic and microscopic basis, their applications to photonic and electronic gases, electromagnetism, Maxwell's equations and their applications in the electromagnetic waves, energy carried by the EM waves and theory of relativity. This course is the pre-requisite for several advanced courses in physics, chemistry, life sciences and the modern communication systems. Pre-requisite for this course is the knowledge of elementary mathematics and calculus. This forms the core course of the programmes and every student pursuing B Sc with physics as one of the optional is required to study this course.*

Unit -I: Statistical Basis and Thermodynamics (12 Periods)
Statistical basis, probability, probability and frequency, principle of equal a priori probability, additive and multiplication rule of probability, conditional probability, permutation and combinations, ensemble and average properties, micro and macro states, thermodynamic probability, entropy and probability and relation connecting them. **(Reference Book Sr. No. 1)**

Unit S-II: Classical Statistics and Quantum Statistics (12 Periods)
Phase space, Maxwell-Boltzmann Distribution law, Quantum Statistics-Bose- Einstein Distribution law, Fermi- Dirac Distribution law, comparison of M. B., B.E. and F. D. statistics, application of Quantum statistics to Photon gas and Electron gas **(Reference Books Sr. No. 2, 4 and 8)**

UNIT –III: Electromagnetic Theory and Maxwell's Equations (11 Periods)
Ampere's Law and Steady State current, Generalization of Ampere's Law and displacement current, Maxwell's Equations, Derivation of Maxwell's Equations, The electromagnetic Energy and Poynting Vector, The wave Equation for free space. **(Reference Books Sr. No. 4,5,6,9)**

Unit IV: Relativity (10 Periods)
Introduction, frame of reference, Postulates of Special Theory of Relativity, Galilean Transformations, Lorentz Transformations, Length Contraction, Time dilation, Velocity addition, relativity of mass, Mass energy relation. **(Reference Books Sr. No. 7 and 8)**

Books Recommended:

1. Heat Thermodynamics and statistical Physics – Brij Lal, Dr. N. Subrahmanyam, P. S. Hemne (Sultan Chand & Company Ltd).
2. Thermodynamics and Statistical Physics- S.L.Kakani (Sultan Chand & Sons)
3. Thermodynamics, Kinetic Theory, and Statistical Thermodynamics – Sears
4. Foundation of Electromagnetic Theory – John R Reitz & Frederic J. Milford (Narosa Publishing House)
5. Classical Electrodynamics- Gupta, Singh, Kumar (Pragati Prakashan, Meerut)
6. Introduction to Electrodynamics- David J. Griffiths (Prentices Hall, India)
7. Perspectives of Modern physics – Arthur Beiser
8. Modern Physics- R Murugeshan, K Shivaprasath (S.Chand Publications)
9. Electromagnetic Theory and Electrodynamics- Satya Prakash

CCPS I - (Section A) SEC-I Skill Enhancement Course I

A. Computational Physics

Credit: 02 **45 Lectures (Theory + Lab)**	**Maximum Marks: 50** **C. A. (Internal): 25** **ESE OR Skill Exam:25**
Students are required to maintain project file or dissertation and need to submit the same while assessing analytic skills/ problem solving in skill exam	

Learning objectives: *This is a skill based course and is aimed to impart skills related to the use of computer and allied software and encourage them to employ that software as a part of the Physics Learning. This course introduces the students to perform their own algorithms and flow chart, write computer programs to solve mathematical expressions using computers, make decisions, etc. As this is a skill based course therefore it is expected that students need to spend nearly half of the time in laboratory, hands-on training. This course is the pre-requisite for several advanced courses in physics, chemistry, and in almost all other disciplines. Pre-requisite for this course is the knowledge of elementary mathematics and calculus.*

UNIT-I: Algorithms and Flowcharts (10 Lectures)

Algorithm- definition and development, Flowchart Concept, Symbols, Algorithm and Flowcharts for roots of quadratic equation, sum of two matrices, sum and product of finite series, calculation of Sin (x) as series.

UNIT-II: Scientific Programming (10 Lectures)

Fortran: character set, Constants, Variables, Arithmetic expressions, Library functions, Arithmetic statements, Structure of program, FORMAT specification, READ, WRITE, Terminating a program, programming style, Unformatted I/O statements.

UNIT-III: Control Statements (10 lectures)

Unconditional GOTO, Computed GOTO, Arithmetic IF, Logical if, IF-THEN-ELSE, Nested IF-THEN-ELSE, ELSE-IF-THEN, Rules for DO loops, CONTINUE, Nested Do loops, DATA Statement, Double precision, Logical data, CPMPLEX data, String manipulation, WHILE structure, Array declarative statements, Implied Do loops, One & multidimensional array, Function subprograms, Subroutine subprograms, COMMON, EQUIVALENCE, Data file organization, OPEN a file, READ from a file, WRITE in a file, Closing a file, File creation programs, File processing programs.

Hands on Exercises: Write programs for the following and get the results **(15 Lectures)**

1. Centigrade to Fahrenheit conversion.
2. Area of a triangle.
3. Velocity and acceleration.
4. Fibonacci Numbers
5. Quadratic equation.
6. Sum of series.
7. Sum of sine series.
8. Greatest common divisor.
9. Matrix addition.
10. Matrix multiplication.

Reference Books:

1. Introduction to Numerical Analysis, S S Sastry, 5th edition, 2012, PHI Learning Pvt. Ltd.
2. Computer programming in Fortran 77, V. Rajaraman, PHI Publisher
3. Computational Physics: An Introduction, R. C. Verma, New Age International Publisher, New Delhi.

CCPS I - (Section A) SEC-I Skill Enhancement Course I

B. Electrical Measurements

Credit: 02 **45 Lectures (Theory + Lab)**	**Maximum Marks: 50** **C. A. (Internal): 25** **ESE OR Skill Exam:25**
Students are required to maintain project file or dissertation and need to submit the same while assessing analytic skills/ problem solving in skill exam	

Learning objectives: *This is a skill based course and is aimed to acquire skills related to characteristics and usage of the instruments for measurement of the electrical quantities like voltage, current, impedance and various other quantities using analogue and digital meters. The students will learn the skills selecting meters of proper scales, connecting and handling them and also to use them. As this is a skill based course therefore it is expected that students will spend nearly half of the time in laboratory for gaining hands-on training. This course is the pre-requisite for several advanced courses in physics, chemistry, and in almost all other disciplines. Pre-requisite for this course is the knowledge of physical quantities and their measurement.*

UNIT-I Basic of Measurement **(3 Lectures)**

Instruments accuracy, Precision, Sensitivity, Resolution range, Errors in measurements, Loading effect.

UNIT-II Multimeter **(4 Lectures)**

Principle of measurement of dc voltage and dc current, ac voltage, ac current, Resistance, Specifications of a Multimeter and their significance.

UNIT-III Voltmeter **(5 Lectures)**

Principles of voltage measurement (block diagram only), Sensitivity, Specifications of an electronic voltmeter and its significance, Ac millivoltmeter, Types of ac millivoltmeter.

UNIT-IV Milliammeters **(5 Lectures)**

Principle of current measurement, Measurements of dc current, Ac current, Micro ammeters

UNIT-V Impedance Bridges **(6 Lectures)**

Block diagram of bridge, Working principles of basic (balancing type) RLC bridge, Specifications of RLC bridge.

UNIT-VI Digital Instruments **(7 Lectures)**

Principle and working of digital meters, Comparison of analogue and digital instruments, Characteristics of digital meter, Working principle of digital voltmeter, Block diagram and working of digital Multimeter.

Hands on Exercises **(15 Lectures)**

1. Measurement of ac and dc voltages by using analogue multimeter.
2. Measurement of resistance using colour code and analogue multimeter.
3. Measurement of ac and dc currents by using multimeter.
4. Measurement of ac and dc voltages by using AC/DC Voltmeters.
5. Measurement of ac and dc currents by using AC/DC Milliammeters.
6. Determination of value of L and C using bridge circuit.
7. Measurement of ac and dc voltages by using digital multimeter.
8. Measurement of resistance using digital multimeter.
9. To study testing of diode and transistor with multimeter.

Reference Books:

1. A Text book in Electrical technology, B L Theraja, S Chand & Co
2. Digital Circuits & Systems, Venugopal, 2011, Tata McGraw Hill
3. Electronic Circuits: Handbook of design and applications, U. Tietze, Ch. Schenk, 2008, Springer
4. Electronic Devices & Circuits, S. Salivahanan & N S Kumar, 3rd edition, 2012, Tata McGraw Hill

Notes:

1. *Students may select either of the* ***Two Skill Enhancement Courses (SEC) A or B***
2. **Assessment of the Skill Enhancement (SEC) papers:** *The SEC courses (SEC I and II) will be assessed in both Continuous as well as End Semester mode. The Continuous Assessment (CA) includes Test/Tutorial on theory part of the course for 15 marks, one seminar of 10 marks (a total of 25 marks); while the End Semester Assessment (ESE) of 25 marks will be conducted at the end of the year (on annual basis) along with their practical examinations by a pair of external examiners. The ESE shall be either in the form of a presentation, demonstration or practical work.*
3. **Students have a choice of selecting SEC courses from either of their optional subjects (i.e. Physics, Mathematics, Chemistry, Electronics or Computer Science) as per the allotment.**

CCP IV - (Section A) P-VIII Core Paper: *Optics and Lasers*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning objectives: *This course is aimed to introduce the students to important core subject* ***optics and its applications****. This course begins with the introduction to the concepts of geometrical optics, properties of optical instruments, interference and diffraction of light, polarization of light and finally introduces to the advanced source like LASERS and conditions for the lasing action. This course is the advanced course having applications in nearly all the branches of science. Pre-requisite for this course is the knowledge of light waves and their properties in different media and requires the knowledge of EM waves. This forms the core course of the programmes and every student pursuing B Sc with physics as one of the optional is required to study this course.*

Unit–I Geometrical Optics (09 Periods)

Cardinal Points of an Optical System (six points), Coaxial Lens System (equivalent focal length and cardinal points), Huygens Eyepiece, Ramsden Eyepiece and their cardinal points. ***(Ref. Book No. 1)***

Unit–II Interference and Diffraction (14 Periods)

Interference: Newton's Rings, Determination of wavelength of Sodium light, Michelson Interferometer, Determination of wavelength of monochromatic light.

Diffraction: Fresnel and Fraunhofer diffraction, Fraunhofer's diffraction due to single and double slit, Plane diffraction grating, Determination of wavelength of Sodium light, Rayleigh criterion, Resolving power of grating. ***(Ref. Book No. 1)***

Unit–III Polarization (12 Periods)

Polarization by Reflection, Brewster's law, Malus law, Double refraction, Nicol prism, Nicol prism as an analyzer, Huygen's explanation of double Refraction in Uniaxial crystals , Quarter wave plate, Half wave plate, Optical Activity , Specific rotation, Laurent's half shade polarimeter. ***(Ref. Book No. 1 & 2)***

Units–IV Lasers (10 Periods)

Spontaneous & stimulated emission, absorption, Einstein coefficients (definitions), Population inversion, Optical & electrical pumping, Properties of lasers, He-Ne laser. ***(Ref. Book No. 3)***

Books Recommended:

1. A Text Book of Optics - Brijlal and Subrahmanyam. (S. Chand & Co.)
2. B.Sc.Physics Volume –I-- C.L.Arora (S.Chand)
3. Lasers and Nonlinear Optics – B.B.Laud (Willey .Eastern limited)
4. Optics and Atomic Physics – D.P. Khandelwal. (Himalaya Publishing House)
5. Optics (Second edition) – A.K.Ghatak
6. Geometrical & Physical optics by D. S. Mathur.

CCP IV - (Section B) P-IX Core Paper: *Basic Electronics*

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Learning Objectives:

1. *To understand basic concepts of semiconductors, semiconductor diodes and their characteristics.*
2. *To know construction, working of transistors and their applications*
3. *To understand basics and applications of operational amplifiers.*
4. *To use transistors in different combinations as oscillators for generating sinusoidal waves of different frequencies.*

Learning Outcome: *After completing this course students will be able to*

1. *Identify and understand construction and properties of different types of P-N junction diodes*
2. *Apply knowledge of semiconductor devices to use them in different combinations to see their applications as amplifiers and oscillators*
3. *Design different circuits using semiconductor devices and demonstrate their usage.*

Unit – I Semiconductor Diodes (10 Periods)

Semiconductor, Types of semiconductor, P-N Junction diode, Zener diode, Light Emitting Diode, Photodiode, Varactor diode and their V/I characteristics

Unit–II Bipolar Junction Transistors (BJT): (13 Periods)

Transistor Connections: Common base, common emitter, common collector, Characteristics of common base, common emitter, common collector connections, Hybrid parameters (or h parameters) Determination of h-parameters, Analysis of common emitter amplifier and common collector amplifier using h-parameters (current gain, voltage gain, power gain, input resistance and output resistance)

Unit–III Operational Amplifier (12 Periods)

Basic circuit of differential amplifier, common Mode and differential mode signals, block diagram of Op-Amp, schematic symbol, ideal Characteristics, input offset voltage; input offset current, input bias current, input impedance, Output impedance, open loop gain, CMRR, Slew rate, Inverting amplifier and non-inverting amplifier

Unit IV: Sinusoidal Oscillators: (10 Periods)

Oscillator, Types of sinusoidal Oscillators, Oscillatory circuit, Positive feedback Amplifier- Oscillator, Barkhausen Criterion, Hartley oscillator, Colpitt's oscillator, R-C Network, Phase shift oscillator

Books Recommended:

1. Principles of Electronics – V. K. Mehta Rohit Mehta (S.Chand & Co.)
2. Principles of Electronics – V. K. Mehta Rohit Mehta (multicolour Illustrative Edition
1. 2000 and2013) (S.Chand & Co.)
2. Electronic Principles- A. P. Malvino
3. Basic Electronics (Solid State) – B.L.Thereja (S.Chand & Co.)
4. Basic Electronics & Linear Circuits—N.N.Bhargava,D.C.Kulshreshtha(TMH)
5. Op-Amps and Linear Integrated Circuits-Ramakant Gayakwad, (PHI Delhi)
6. Electronic fundamentals and Applications – J. D. Ryder.(TMH publications).
7. Digital & Analogue Techniques—Navneet , Gokhale & Kale (Kitab Mahal)
8. Introduction to Electronics-K.J.M.Rao, (Oxford and IBH Publishing Co.).
9. Solid State Pulse Circuits-David A Bell, Fourth edition, (PHI)
10. Electronics and Radio Engineering-M.L.Gupta, (Dhanpat Rai and sons).

CCPS I - (Section B) SEC-II Skill Enhancement Course II

A. Electronic Devices and Equipments

Credit: 02 **45 Lectures (Theory + Lab)**	**Maximum Marks: 50** **C. A. (Internal): 25** **ESE OR Skill Exam:25**
Students are required to maintain project file or dissertation and need to submit the same while assessing analytic skills/ problem solving in skill exam	

Learning objectives: *This is a skill based course and is aimed to educate students about the working and usage of electrical appliances and other electrical devices. This course enables the students to know the behavior of active and passive devices under ac and dc conditions and also to use them for designing various circuits such as signal generators and amplifiers. As this is a skill based course, therefore, after completing this course the students will be able to acquire skills and apply them in daily hood purpose. As this course is of do-it-yourself nature, therefore, the students are required to spend more than half of the time in laboratory. This course is the pre-requisite for several advanced courses in physics, chemistry, and in almost all other disciplines. Pre-requisite for this course is the knowledge of semiconductor physics, knowledge of the semiconductor devices and their characteristics.*

UNIT-I Basic Electricity Principles (6 Lectures)

Resistance, Inductance, Capacitor, Colour code, Voltage, Current, Power, Ohm's law, Kirchhoff's law, Junction diode, Transistor

UNIT-II Understanding Electronic circuits (6 Lectures)

AC and DC sources, Rules to analyze DC sourced electronic circuits, Current and voltage drops across the DC circuit elements, Rectifiers (half wave, full wave & bridge)**,**Voltage regulator using Zener diode

UNIT-III Transistor applications (6 Lectures)

CE amplifier, its analysis and performance, CB amplifier, its analysis and performance, Hartley oscillator, Colpitts oscillator and their performance, Wien bridge oscillator and its performance

UNIT-IV Signal Generators (6 Lectures)

Block diagram, explanation and specification of low frequency signal generators, Pulse generator, Function generator

UNIT-V Cathode Ray Oscilloscope (6 Lectures)

Block diagram of basic CRO, construction of CRT, electron gun, electrostatic focusing and acceleration (only explanation), Use of CRO for measurement of ac and dc voltages, time period, frequency, special features of dual trace CRO, study of Lissajous figures

Hands on Exercises: (15 Lectures)

1. Measurement of voltage, time period and frequency using CRO.
2. Measurements of rise and fall time using CRO.
3. To study dual trace CRO.
4. Study of full wave rectifier.

5. Study of Lissajous figures.
6. Study of Zener diode voltage regulator.
7. To study of performance of single stage CE amplifier.
8. Determination of resistance and capacitor values using colour code.
9. To study wave forms generated by a function generator.
10. Study of Wien Bridge oscillator

Reference Books:

1. A Text Book in Electrical Technology, B. L. Theraja, S Chand & Co.
2. Electronic Circuits: Handbook of design and applications, U. Tietze, Ch. Schenk, 2008, Springer.
3. Electronic devices, 7/e Thomas L. Floyd, 2008, Pearson India.
4. Electronic Devices & Circuits, S. Salivahanan& N S Kumar, 3rd edition, 2012, Tata McGraw Hill

CCPS I - (Section B) SEC-II Skill Enhancement Course II

B. Applied Optics

Credit: 02 **45 Lectures (Theory + Lab)**	**Maximum Marks: 50** **C. A. (Internal): 25** **ESE OR Skill Exam:25**
Students are required to maintain project file or dissertation and need to submit the same while assessing analytic skills/ problem solving in skill exam	

Learning objectives: *This is a skill based course and is aimed to impart advanced skills related to the optical and photonic devices. This course also enables the students to verify various facts that they have learned in the theory course on optics. They will also be introduced and allowed to work on various optical devices including LASERS. After completing this course students will be able to understand the working properties of various optical and photonic devices. As this is a skill based course, therefore, students are required to spend more than half of the time in laboratory for doing hands-on activities. This course is of applied nature and helps the students to use this knowledge in optical and allied laboratories. Pre-requisite for this course is the knowledge of optics.*

UNIT-I Refraction Through Lenses **(10 Lectures)**

Types of lenses, The sign convention, Principal foci, Deviation produced by a thin lens, Power of a lens, Principal planes and Focal planes, Dispersion by prism, Dispersive power, Huygens eyepiece, Ramsden eyepiece

UNIT-II Photonic Devices **(10 Lectures)**

Construction of LED**,** Working principle of LED, Types of LED, Construction of LDR, Working principle of LDR, Construction of photovoltaic cell & its working principle.

Polarization of Light: Polarization of transverse wave, Plane of polarization, Brewster law, Malus law, Specific rotation, Laurent's half shade Polarimeter.

UNIT-III Lasers **(10 Lectures)**

Lasers, spontaneous and stimulated emission, Theory of laser action, Einstein's coefficients, Light amplification, laser beam characteristics, He-Ne laser, Semiconductor diode laser

Hands on Exercises: (15 Lectures)

1. Determination of focal length of a biconvex lens.
2. Determination of radius of curvature of a lens using a spherometer.
3. Determination of power of a lens.
4. Determination of the grating radial spacing of a compact disc (CD) by reflection using a laser source.
5. To find the width of the slit using diffraction pattern obtained by a laser
6. To find angle of polarization using Brewster law.
7. To study V-I characteristics of LED.
8. Study the characteristics of solid state laser.

9. Study the characteristics of LDR.
10. Study characteristics of a photovoltaic cell.

Reference Books:

1.Fundamentals of optics, F. A. Jenkins & H. E. White, 1981**,** Tata McGraw Hill.
2.LASERS: Fundamentals & applications, K. Thyagrajan& A. K. Ghatak, 2010, Tata McGraw Hill.
3.A Text Book of Optics**,** Brij Lal & Subramanyam, 1989, S Chand & Co
4.Laser & Non- linear optics, B. B. Laud, New Age International Publisher

Notes:

1. *Students may select either of the* ***Two Skill Enhancement Courses (SEC) A or B***
2. **Assessment of the Skill Enhancement (SEC) papers:** *The SEC courses (SEC I and II) will be assessed in both Continuous as well as End Semester mode. The Continuous Assessment (CA) includes Test/Tutorial on theory part of the course for 15 marks, one seminar of 10 marks (a total of 25 marks); while the End Semester Assessment (ESE) of 25 marks will be conducted at the end of the year (on annual basis) along with their practical examinations by a pair of external examiners. The ESE shall be either in the form of a presentation, demonstration or practical work.*
3. **Students have a choice of selecting SEC courses from either of their optional subjects (i.e. Physics, Mathematics, Chemistry, Electronics or Computer Science) as per the allotment.**

CCPP-II P-X: Practicals Based on Section A of CCP III & IV (Papers P-VI & VIII)
(*Assessment to be done at the end of the IVth Semester i.e., Annual Pattern*)

***Credits:* 02**	***Periods*: 45**	***Total Marks:* 50 (*CA=10, ESE=40*)**

Practicals Based on Theory Papers VI and VII (Section A of CCP III & IV)

Learning Objectives: *Objective of this Laboratory course is to introduce the students to the practical applications of the core courses* ***Section A of CCP III & IV*** *in Physics that the students have studied in Semester III and IV. This laboratory course also includes experiments based on the computational methods applicable for solving problems in physical situations. After completing this course students will get insight of the theory course they have undergone and will understand the importance and applications of the courses. Each student appearing for examination must produce a journal showing that he has completed* ***at least 12*** *experiments of this paper during the year.*

Practicals based on paper -VI

1. Moment of Inertia of a flywheel
2. Kater's pendulum
3. Y by Cantilever (Oscillation method)
4. η by torsional pendulum
5. Y and η by Searle's method
6. Surface tension by Fergusson method
7. Frequency of A.C. by Sonometer
8. Helmholtz's resonator
9. Study of Lissajous figures using CRO

Practicals based on paper-VIII

1. Calibration of Spectrometer(between μ and $1/\lambda^2$) for different colors
2. Determination of 'μ'by i-δ curve using spectrometer
3. Determination of **λ** of Sodium light by Newton's ring
4. **13** To determine Radius of curvature of (R)of planoconvex lens by Newton's Ring
5. Diffraction grating normal incidence
6. Resolving power of Telescope
7. Specific rotation by Laurent's half shade Polarimeter
8. To Estimation the concentration of sugar in the solution.
9. Wave Length of Laser source by Diffraction Grating
10. To study the Spectral Characteristics of a Photovoltaic Cell
11. To study the Characteristics of solar cell.

Note: Every student is required to perform **at least twelve (12) experiments (six from each paper)** out of the list given above during semesters III and IV. They have to complete the record book / journal listing at least 12 experiments and have to submit/present before the panel of examiners at the time of their practical examination, which will be conducted at the end of the IVth semester (annually), by a panel of examiners.

CCPP-III P-XI: Practicals Based on Section B of CCP III & IV (Papers P-VII & IX)
(*Assessment to be done at the end of the IVth Semester i.e., Annual Pattern*)

Credits: 02	*Periods*: 45	*Total Marks:* 50 (*CA=10, ESE=40*)

Practicals Based on Theory Papers VII and IX (Section B of CCP III & IV)

Learning Objectives: *Objective of this Laboratory course is to introduce the students to the practical applications of the core courses* ***Section B of CCP III & IV*** *in Physics that the students have studied in Semester III and IV. This laboratory course also includes experiments based on the computational methods applicable for solving problems in physical situations. After completing this course students will get insight of the theory course they have undergone and will understand the importance and applications of the courses. Each student appearing for examination must produce a journal showing that he has completed* ***at least 12*** *experiments of this paper during the year.*

Practicals based on paper-VII

1. Potentiometer- measurement of Low resistance
2. C_1/C_2 by Proportional kick method
3. C_1/C_2 by Method of Mixture
4. Maximum velocity of electron using photocell
5. To determine the capacitance of a capacitor by discharging it through a sensitive galvanometer.
6. Determination of self inductance by Owen's bridge.
7. To determine resistance of a thermister.
8. Calibration of ammeter using potentiometer.
9. Stefan's Constants

Practicals based on paper-IX

1. To Study the Zener Diode as voltage regulator
2. LED characteristics
3. Photo diode characteristics
4. Transistor characteristics (C-B mode)
5. Transistor characteristics (C-E mode)
6. Characteristics of photo transistor
7. Power supply using Pi -filter (Full Wave rectifier)
8. Transistorized regulated power supply.
9. Study of transistorized CE amplifier (Frequency response, gain & 3db band width.)
10. Op-Amp as an inverting amplifier
11. Hartley Oscillator
12. Colpitt's Oscillator
13. Phase shift oscillator. Measurement of frequency and amplitude of waveforms.

Note: Every student is required to perform **at least twelve (12) experiments (six from each paper)** out of the list given above during semesters III and IV. They have to complete the record book / journal listing at least 12 experiments and have to submit/present before the panel of examiners at the time of their practical examination, which will be conducted at the end of the IVth semester (annually), by a panel of examiners.

Question Paper Pattern for Practical Course
B. Sc. Second Year (Semester III and IV) Physics
(Annual Pattern)
Practical Paper Nos. P-X and P-XI

Time: 03 Hrs **Total Marks: 40**

Note: ***i. Every student is required to complete one experiment in the final examination***
ii. The distribution of the 40 marks will be as given below

Q-1 (a) Experimental work will carry ***25 marks***

(b) Calculations, Units, Results, Graphs, etc. will carry ***10 Marks***

(c) Viva-voce will be for ***05 marks***

(***Dr. M. K. Patil***)
Chairman,
BOS in Physics

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, मा. विद्याशाखेने **दिनांक ३१ मे २०२१ रोजीच्या बैठकीतील केलेल्या शिफारशीप्रमाणे व दिनांक १२ जून २०२१ रोजी संपन्न झालेल्या ५१ व्या मा. विद्या परिषद बैठकीतील विषय क्र. २६/५१–२०२१**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील तृतीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२१–२२ पासून लागू करण्यात येत आहेत.

1. B.Sc.-III Year-Biophysics
2. B.Sc.-III Year-Bioinformatics
3. B.Sc.-III Year-Biotechnology
4. B.Sc.-III Year-Biotechnology (Vocational)
5. B.Sc.-III Year-Botany
6. B.Sc.-III Year-Horticulture
7. B.Sc.-III Year-Agro Chemical Fertilizers
8. B.Sc.-III Year-Analytical Chemistry
9. B.Sc.-III Year-Biochemistry
10. B.Sc.-III Year-Chemistry
11. B.Sc.-III Year-Dyes & Drugs Chemistry
12. B.Sc.-III Year-Industrial Chemistry
13. B.C.A. (Bachelor of Computer Application)-III Year
14. B.I.T. (Bachelor of Information Technology)-III Year
15. B.Sc.-III Year-Computer Science
16. B.Sc.-III Year-Network Technology
17. B.Sc.-III Year-Computer Application (Optional)
18. B.Sc.-III Year-Computer Science (Optional)
19. B.Sc.-III Year-Information Technology (Optional)
20. B.Sc.-III Year-Software Engineering
21. B.Sc.-III Year-Dairy Science
22. B.Sc.-III Year-Electronics
23. B.Sc.-III Year-Environmental Science
24. B.Sc.-III Year-Fishery Science
25. B.Sc.-III Year-Geology
26. B. A./B.Sc.-III Year-Mathematics
27. B.Sc.-III Year-Microbiology
28. B.Sc.-III year Agricultural Microbiology
29. B.Sc.-III Year-Physics
30. B. A./B.Sc.-III Year Statistics
31. B.Sc.-III Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२१–२२/७५
दिनांक : १२.०७.२०२१.

स्वाक्षरित
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
७) अधीक्षक, परिक्षा विभाग विज्ञान व तंत्रज्ञान विद्याशाखा प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University, Nanded

FACULTY OF SCIENCE & TECHNOLOGY

B.Sc. Third Year
Zoology
(Structure and Syllabus)

Choice Based Credit System (CBCS-R2021) Course Structure
Semester Pattern Syllabus
Effective from June, 2021

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System Course Structure Revised in 2021 (CBCS-R2021)
Faculty of Science & Technology
B.Sc. Third Year (Semester V & Semester VI) Syllabus w.e.f. June, 2021
Semester Pattern; Subject: Zoology

NEWLY DESIGNED CBCS CURRICULA OF B.Sc. THIRD YEAR ZOOLOGY INCLUDING SKILLS

Zoology is a branch of Science which deals with study of the **animal kingdom**. It embodies study of the structure, embryology, evolution, classification, habits, and distribution of all animals, both living and extinct. There are several specializations available to students pursuing this field. There are diverse fields in Zoology like Applied Parasitology, Protozoology, Helminthology, Fishery Science, Entomology, Environmental Biology, Ecology, Animal Physiology, Biochemistry, Embryology, Evolutionary Biology, Genetics, Molecular Cell Biology, Systematics, Ethology, etc. There are many options to choose from depending on individual capabilities and interests.

This revision of the syllabus of B.Sc. III year has been done in view of the current socio-economic conditions of Marathwada and also the Nation. The ongoing pandemic has added new dimensions to educational systems across the world. In view of this changed scenario, the BoS of Zoology has taken the initiative to enhance the syllabus of zoology with new perspectives. Henceforth, the subject of zoology will be taught with increased focus on applicability and also on academic enhancement of the students' ability to compete in the academic and corporate world. The current revision has taken into consideration the amenability of this syllabus for teaching in both offline and online mode. Content delivery would be possible in both these modes.

The University has introduced the Choice Based Credit System (CBCS) in its curricula from June 2018. Following is a briefing about CBCS as envisaged by the UGC.

CHOICE BASED CREDIT SYSTEM (CBCS):

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions to begin with. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

DISCIPLINE SPECIFIC ELECTIVE COURSES:

The Discipline Specific Elective Courses (DSEC) offered to students of B.Sc. III Year Zoology are aimed at priming the students for their future careers and/or study in the fields of biological sciences. The students are prepared for pursuing their post-graduate studies. They would also be able to take up entrepreneurship related to biological sciences. Additionally, the students could chose to join public or private sectors like fishery, forestry, wildlife conservation, agricultural research, health services, environmental management and restoration.

THE SALIENT FEATURES:

Ecology & Zoogeography and **Ethology, Biometry & Bioinformatics** are the two compulsory papers in Zoology offered to the B.Sc. III year students in V & VI semesters respectively. The paper in Ecology attempts to elucidate the current state of environment degradation - a serious issue that needs addressing. A good understanding of the dynamic nature of the environment is the core of the first paper. Added to it is also an aspect on the global distribution of different species of animals. The paper on Ethology (or animal behaviour) is the second paper that deals with the different forms of behaviours seen in animals, their methods of learning and their social interactions. An understanding of animal behaviour is of utmost importance to those who deal with study, experimentation, farming or management of animals. The paper also covers fundamental aspects of biostatistics and some topics on bioinformatics.

The elective papers being offered in the last two semesters of the course are **Pisciculture** and **Aquaculture** covering the fields of capture and culture fishery science; **Applied Parasitology- I & II**, dealing with protozoan, helminth and arthropod parasites in human and farm organisms of economic importance; **Entomology- I & II**, dealing with biology, taxonomy, and economic importance of different insect species; **Environmental Biology- I & II**, covering the different aspects of biotic and abiotic components of environment, human influence on the environment and remedial measures at national and international level.

SKILL ENHANCEMENT COURSES

Skill enhancement is a new aspect added to the regular course in the university curriculum. Courses offered in conjunction with the regular papers in the different subjects are designed with the aim of imparting specific skills to the students as they progress through the three years of their degree education. These courses aim at imparting (self) employability skills to the students enabling them to initiate their own entrepreneurship. At the very least, these courses are an attempt to equip the students with skills that would enhance their employability in the relevant farm or agricultural enterprises.

The skill enhancement courses offered under the subject of Zoology are -

1. Parasites of Public Health Importance
2. Vermiculture & Vermicomposting
3. Aquarium keeping
4. Sericulture

UTILITY OF THE COURSES:

Study of the subjects of Ecology & Zoogeography and Ethology in conjunction with Biometry and Bioinformatics equips the student to take up further study in a wide variety of subjects. It also prepares the student for future research in any of the above or related fields. Such a broad coverage of topics in the final year of the course also helps in widening their perspective of biological sciences. The elective courses offered are related to Fishery Science, Applied Parasitology, Entomology and Environmental Biology. These courses would crystallize the understanding of the specific subjects so that the student could take up specialized post-graduate courses and also pursue research in the relevant field. The students could also explore possibilities in developing themselves in such specialized fields like Fish farming, Fishery management, Parasite control, Parasite related health services, Pest control and management, industries like Sericulture & Apiculture, Environmental Consultancy and Environmental Management services.

A knowledge and understanding of ailments caused by parasites both in man and animals is important in public and veterinary health management. Intestinal parasites are distributed literally across the globe, with high prevalence in some areas. The prevention and control of these infections are now more feasible than ever before owing to the discovery of safe and efficacious drugs, the improvement and simplification of some diagnostic procedures, and advances in parasite population biology. This course would offer the students with an understanding of the prevention, control and treatment strategies (of these parasites) using the currently available regime of drugs and other chemicals.

Aristotle has said, “Earthworms are intestines of the earth.” The importance of earthworms in organic waste management and recycling cannot be under-emphasized. Vermiculture and vermicomposting are the best and environment friendly methods for producing nutrient rich manure for home gardening and agriculture. The course on vermicomposting aims at imparting sufficient understanding and skill to the student for an economically viable activity. Vermiculture is environment friendly since earthworms feed on anything that is biodegradable, vermicomposting can aid in garbage disposal problems. No imported inputs are required, worms are available locally and organic matter for feeding are abundant locally as market wastes, grasses, used papers and farm waste.

The course on Aquarium keeping is an attempt at acquainting the students with the inner workings of fabrication, installation and maintenance of home aquarium. Aquarium keeping is by far the most popular hobby, with small pet shops coming up for sale of a variety of ornamental fish. In common practice, aquarium hobbyists keep glass tanks with different species of fish. Maintaining a fish tank in a healthy state requires knowledge of aquatic ecology, fish biology, species compatibility and their reproductive strategy. Through this course the students would be able take up aquarium keeping as a source of income.

Sericulture is an agro-based industry for production of raw silk both as a cottage and a medium

scale industry. India being a predominantly tropical agricultural country has immense scope for development of sericulture. The course on sericulture could become an attractive opportunity for the students to develop their skill set in this enterprise and start their own industry.

LEARNING OBJECTIVES:

Discipline Specific Elective [DSE] Course Zoology:

The Learning objectives are as follows:

DSEZ-I; Section-A: PAPER-XII- ECOLOGY AND ZOOGEOGRAPHY:

- To understand and appreciate the interactions of organisms with their environments and the consequences of these interactions for population, community, and ecosystem dynamics.
- To be aware of the current environmental issues with an understanding of the basic ecological concepts involved.
- To study the local and geographical distribution and abundance of organisms (habitat niche, community, bio-geography).
- To understand the inter-relationship between individuals in population and communities (population ecology).
- To study the structural adaptations and functional adjustment of organisms to their physical environment.
- To study the conservation and management of natural resources and pollution (applied ecology).

DSEZ-I; Section-B: PAPER-XIII (A)- PISICULTURE:

- To exchange and circulate information, ideas and practical experience on all matters relating to fisheries and their management.
- To enable students with Fishery specific knowledge for entering PG courses or fishery industries.
- To establish and maintain an appropriate Branch and Specialist section structure to meet the local, specialist and overall needs of fisheries interests.

DSEZ-I; Section-B: PAPER-XIII (B)- APPLIED PARASITOLOGY – I

- To introduce students to the basic concepts of Applied parasitology.
- To expose students to the knowledge of host-parasite relationship.
- To give students a broad perspective of epidemiology, transmission, control and treatment of parasitic diseases caused by protozoans and platyhelminthes.

- To familiarize students with morphologic criteria to differentiate between the most common protozoan and helminth parasites.

DSEZ-I; Section-B: PAPER-XIII (C)- ENTOMOLOGY- I

- To define general entomology and classifying insects according to their economic importance.
- To acquaint students with the morphology and anatomy of selected insect species.
- To introduce students to insect biology.
- To impart knowledge of insect ecology covering factors like effect of light, temperature, humidity.

DSEZ-I; Section-B: PAPER-XIII (D)- ENVIRONMENTAL BIOLOGY – I

- To identify the fundamental structure and function of an ecosystem.
- To compare and contrast different types of ecosystems.
- To study the Biodiversity and its classifications, identify threats to Biodiversity; know and apply methods to conserve Biodiversity.

DSEZ-II; Section-A: PAPER-XIV- ETHOLOGY, BIOMETRY AND BIOINFORMATICS:

- To study the behaviour of organism under natural conditions (Ethology).
- To understand the concepts of Biometry.
- To get acquainted with and apply the fundamentals of applied statistical methodology.
- To give students an introduction to the basic practical techniques of bioinformatics.
- To emphasize the application of bioinformatics and biological databases for problem solving in real-life & research.
- To familiarize student with the use of a wide variety of internet applications, biological database and to enable them to apply these methods under various situations.

DSEZ-II; Section-B: PAPER-XV (A)- AQUACULTURE:

- To introduce student to various types of aquaculture and culture methods.
- To obtain knowledge of fishery science, with a particular emphasis on the biology, assessment, and management of fish and invertebrate fisheries.
- To create awareness about manmade hazards to aquaculture.
- To elaborate the role of Larvivorous fishes in relation to public health.

- To acquire knowledge of Mariculture.
- To understand and appreciate the role of Government in aquaculture development.

DSEZ-II; Section-B: PAPER-XV (B)- APPLIED PARASITOLOGY – II:

- To provide a broad-based knowledge and understanding of Parasitology with special emphasis on Parasitic Nematodes and Arthropods.
- To understand the morphology of nematodes as it relates to their taxonomic position and their ability to cause diseases in plants and animals.
- To understand and apply the principles of controlling nematode diseases to plants and animals.
- To describe the basics of arthropods of public health importance.
- To identify vector - host - pathogen relationships in arthropod-borne diseases.
- To apply modern tools for surveillance and diagnosis of vector-borne diseases.
- To provide sufficient knowledge, understanding, and critical judgment appropriate for professional employment in Parasitology or a related discipline.

DSEZ-II; Section-B: PAPER-XV(C)- ENTOMOLOGY- II:

- To introduce students to the ecology and biology of insects of medical and agricultural importance.
- To provide students with opportunities to understand insect pest management techniques such as cultural, physical, Biological, chemical, IPM etc.
- To provide students an adequate knowledge of various types of insecticides and problems associated with their use.
- To equip students knowledge of practical applications of insecticides and maintenance of pesticide equipment.

DSEZ-II; Section-B: PAPER-XV(D)- ENVIRONMENTAL BIOLOGY – II:

- To understand pollution status, including its causes and effects on environment.
- To learn to protect oneself and the environment from the adverse effects of environmental pollution.
- To use an interdisciplinary approach to analyze environmental issues and problems.
- To develop a worldview related to an understanding of current environmental issues and how global problems affect us locally.

PRACTICALS:

- To improve the skills of students in microscopy, whole mount preparation, observations, drawings and laboratory techniques.
- To acquaint the students with operations of the different laboratory equipment.
- To equip the student with the necessary skills in standard operating procedures for laboratories and handling of chemicals, reagents and glassware.
- To instill an understanding of the methods and protocols for handling and maintenance of animals for experiments.
- To provide basic practical skills and experience in using laboratory techniques in experimentation.
- To train the students in the analysis of experimental data with statistical and computer aided techniques.
- To induct the students in the activity of field observation of natural phenomena and organisms through excursion and drafting of reports in a scientific and objective manner.
- To equip the students with the understanding of taxonomy and other aspects of different organisms so that they become capable of classifying any given organism, at least up to the level of Order.

Skill Enhancement Courses

All the skill enhancement courses included in this curriculum are intended to enable the students to become reasonably self sufficient, thereby increasing their employability. Acquisition of these skills by students will open better opportunities for them in the fields of higher studies and research in addition to increasing their employability.

SECZ –III (E): Parasites of Public Health Importance:

The main learning objectives of this skill course include study of parasites of public health importance. This course is intended to a detailed treatment of parasites with emphasis on almost all major features of Biology of these parasites. The outbreak and spread of these parasitic diseases is found across the globe and that too on a large scale. Due to this, the study of these parasites is of paramount significance, to which this skill set attempts to address.

SECZ –III (F) : Vermiculture and Vermicomposting:

The introduction of this skill in the curriculum is with the objective that the learners should be able to do vermiculture in a systematic way and also be able to get hands on experience in all related activities till vermicomposting. This will increase the awareness and skill availability in the need of the day viz. organic farming.

SECZ –IV (G): Aquarium Keeping:

There has been an increasing trend of keeping ornamental fish among the general public. Proportionately there is increasing demand for aquaria and aquarium fish also. This makes the topic of aquarium keeping a viable subject as a skill. This particular paper of skill is intended to train the students in aquarium keeping starting with the very basic aspects of aquarium fabrication, their setting and maintenance. Economic aspects of aquarium keeping are also covered in this course. Related study like fish identification, preparation of supplementary food of concern fish species is also covered. This skill is more self employability oriented.

SECZ –IV (H): Sericulture:

The skills related to sericulture are included in the curriculum with intention of introducing the students to an important market industry. Sericulture related production has a long history and it is in practice from ancient times. There has been a constant demand of sericulture products. In this view sericulture has high employability potential. For the same reason, this skill set aims to train the students in Mulberry cultivation, silkworm rearing & rearing practices, sericulture economics & marketing.

PREREQUISITES:

The study of the DSECs being offered would be based on previous learning by the student as elaborated below.

Ecology & Zoogeography-

- Basic knowledge of feeding strategy of animals and plants.
- Knowledge of interdependence of plants and animals.
- Awareness about various climatic zones of earth.
- Understanding of climatic and weather phenomena.

Ethology, Biometry and Bioinformatics-

- Knowledge of sensory systems in animals.
- Awareness about nervous systems in animals and their intelligence.
- A basic sense of behavior and different behaviors.
- Knowledge of different types of operating systems, general application software.
- Ability to use internet for searching general information and use of web browser.

Pisciculture & Aquaculture-

- Understanding of taxonomy of fish.

- Knowledge of feeding methods and habits of fish.
- Knowledge of general fish anatomy and morphology.
- Knowledge of geography of India.

Applied Parasitology-

- Awareness about morphology and taxonomy of helminthes and arthropods.
- Awareness of human parasitic diseases.

Entomology-

- Understanding of general morphology and taxonomy of phylum Arthropoda.
- Knowledge of the role of insects in agricultural and natural ecosystems.

Environmental Biology-

- Knowledge about geography of India.
- Awareness about industrial status of Maharashtra and India.
- Understanding about feeding strategy of animals and plants.
- Knowledge about basic chemical processes and various chemicals used by society.

Every paper of the skill offered in this curriculum is sufficiently related with one or the other of the optional papers of the curriculum.

The initiative by this University to remodel the curriculum and to introduce Skill Enhancement courses in respective subjects is in line with the UGC guidelines on CBCS. These changes in the overall structure of the courses are definitely going to benefit the students and also help teachers in their academic development.

I humbly acknowledge the guidance, support and encouragement extended by the Hon'ble Vice-Chancellor of this University in revising this syllabus.

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Swami Ramanand Teerth Marathwada University, Nanded
Choice Based Credit System (CBCS-R2021) Course Structure
Faculty of Science& Technology
B. Sc. Third Year (Semester V& Semester VI) Syllabus w.e.f. June, 2021
Semester Pattern; Subject: Zoology

Class/ Semester	Course Number		Name of the Course/ Paper	Instruction Hrs/Week	Total Periods/ Practicals	Marks for		Total Marks	Credits
						Internal (CA)	External (ESE)		
B.Sc. T.Y. Semester V	DSEZ-I	Section -A	PAPER-XII- ECOLOGY AND ZOOGEOGRAPHY	03	45	10	40	50	Credit:02
		Section-B **(Select Any one paper from A/B/C/D)**	PAPER-XIII (A)- PISCICULTURE	03	45	10	40	50	Credit:02
			PAPER-XIII (B)- APPLIED PARASITOLOGY - I						
			PAPER-XIII (C)- ENTOMOLOGY- I						
			PAPER-XIII (D)- ENVIRONMENTAL BIOLOGY - I						
	DSEZP-I	[DSEZ I & II] (Section A)	Practical Paper- XVI-ECOLOGY,ZOOGEOGRAPHY ETHOLOGY, BIOMETRY AND BIOINFORMATICS (Practical based on P-XII & XIV)	03	30	10	40	50	Credit:02
	SECZ-III		SEC-III Any one Skill to be chosen out of Two SECZ –III (E) : PARASITES OF PUBLIC HEALTH IMPORTANCE SECZ –III (F) : VERMICULTURE AND VERMICOMPOSTING	03	45	25	25	50	Credit:02
B.Sc. T.Y. Semester VI	DSEZ-II	Section -A	PAPER-XIV- ETHOLOGY,BIOMETRY AND BIOINFORMATICS	03	45	10	40	50	Credit:02
		Section-B **(Select Any one paper from A/B/C/D)**	PAPER-XV (A)- AQUACULTURE	03	45	10	40	50	Credit:02
			PAPER-XV (B)- APPLIED PARASITOLOGY - II						
			PAPER-XV (C)- ENTOMOLOGY- II						
			PAPER-XV (D)- ENVIRONMENTAL BIOLOGY - II						
	DSEZP-II	[DSEZ I & II] (Section B) **{Select Any one paper from A/B/C/D}**	Practical Paper- XVII (A)- PISICULTURE & AQUACULTURE (Practical based on P-XIII(A)& XV (A))	03	30	10	40	50	Credit:02
			Practical Paper- XVII(B)- APPLIED PARASITOLOGY-I & II (Practical based on P-XIII(B)& XV(B))						
			Practical Paper- XVII(C)- ENTOMOLOGY-I & II (Practical based on P-XIII(C)& XV(C))						
			Practical Paper- XVII(D)- ENVIRONMENTAL BIOLOGY –I & II (Practical based on P-XIII(D)& XV(D))						
	SECZ-IV		SEC-IV Any one Skill to be chosen out of Two SECZ –IV (G): AQUARIUM KEEPING SECZ –IV (H): SERICULTURE	03	45	25	25	50	Credit:02
					Total Credit for Semester V & VI	**110**	**290**	**400**	**Credit:16**

DSEZ: Discipline Specific Elective Course Zoology, **DSEZP:** Discipline Specific Elective Course Zoology Practical, **CA:** Continuous Assessment;
ESE: End of Semester Examination, **SECZ:** Skill Enhancement Course Zoology
SECZ: **CA-25:** Seminar-15 & Test-10 **ESE-25:** Report Submission-10; Overall Skill Judgment-10 and Presentation-05

ESE for SECs SECZ-III & SECZ-IV and Practical Papers DSEZP-I & DSEZP-II(A/B/C/D) for both semesters V & VI respectively will be at the end of Academic Year in Annual Pattern.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -V

Paper: DSEZ-I; Section –A **Title of Paper: Paper-XII -Ecology & Zoo-geography**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. Understand and appreciate interactions of organisms with environment and the ecosystem dynamics.
2. Awareness of current environmental issues, and understanding of relation between structure and function of ecosystems.
3. Knowledge of local and geographical distribution and abundance of organisms.
4. Develop an appreciation of scope of modern scientific inquiry in the field of Ecology.
5. Study structural and functional adaptations of organisms to their environment.
6. Study conservation of natural resources and management of pollution.

UNIT – I **12**

1. **Ecology-**Introduction and Scope of Ecology
2. **Introduction to Ecosystem**
   - 2.1. Components of an ecosystem
     - a) Abiotic components – Light, Temperature & Water
     - b) Biotic components – Producers, Consumers & Decomposers.
   - 2.2. Types of Ecosystem- **Aquatic**- Pond ecosystem.
     Terrestrial- Desert Ecosystem.
   - 2.3. Food Chain, Food Web, Ecological Pyramids.
   - 2.4. Energy Flow in an Ecosystem.
3. **Bio-geochemical Cycles**
   - 3.1. **Gaseous Cycle**- Oxygen Cycle
   - 3.2. **Sedimentary Cycle**- Sulphur Cycle
4. **Spheres of Earth**
   - 4.1. Atmosphere
   - 4.2. Lithosphere
   - 4.3. Hydrosphere
   - 4.4. Biosphere
   - 4.5. Ecological Succession-, Trends, Basic Types, Hydrarch and Xerarch

UNIT – II **11**

1. **Population Ecology –**
   Characteristics of Population
   - 1.1 Natality
   - 1.2 Mortality
   - 1.3 Population Dispersal
   - 1.4 Population density

1.5 Age distribution
1.6 Population Growth Form
1.7 Population Equilibrium and Fluctuation

2. Biotic interactions

2.1 Positive interactions – Commensalism, Mutualism
2.2 Negative interactions – Competition, Predation, Parasitism

UNIT – III **11**

1. Pollution – Sources, Effects and Control

1.1 Air Pollution
1.2 Water Pollution
1.3 Noise Pollution

2. Energy Resources

2.1 Conventional energy resources and their limitations
2.1.1 Fossil Fuels
2.1.2 Nuclear Power
2.1.3 Hydel Power
2.2 Non-conventional energy resources – Advantages, Limitations & Latest developments
2.2.1 Solar Energy
2.2.2 Wind Energy
2.2.3 Tidal Energy

UNIT – IV **11**

1. Adaptations

1.1 Aquatic Adaptations 1.2 Desert Adaptations 1.3 Volant Adaptations

2. Wildlife Conservation and Endangered Species

2.1 Aims & necessity of wildlife conservation
2.2 Wild life and Endangered species of India
2.3 Measures to protect endangered species in India
2.4 Sanctuaries and National parks in India

3. Zoogeographical Realms –

Physical features and fauna of following Realms in Brief.
3.1 Oriental Realm 3.2 Australian Realm

Outcomes:

1. Demonstrate knowledge of biotic and abiotic interactions.
2. Express understanding of environmental issues, and inter-relation between different components of an ecosystems.
3. Ability to elaborate about distribution and abundance of organisms.
4. Apply different experimental techniques to study any ecosystem or its components.
5. Describe the relation between structure and function species in environment.
6. Display knowledge of natural resources and pollution management techniques.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -V

Paper: DSEZ-I; Section –B **Title of Paper: Paper-XIIIA -Pisciculture**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. Study techniques and methods of fish farm construction and pond management.
2. Understand fish breeding methods.
3. Study capture fishery practices in India.
4. Acquire knowledge of fishing craft and gear used in capture fishery in India.
5. Understand symptoms, cure and management of ornamental and food fish diseases.

UNIT- I **11**

1. **Fish Farm Engineering**
   1.1 Topography; 1.2 Soil type; 1.3 Water supply; 1.4 Layout of fish farm
2. **Fish Farm Management**
   2.1 Preparation and Management of Nursery pond
   2.2 Preparation and Management of Rearing pond
   2.3 Preparation and Management of Stocking Pond

UNIT - II **12**

1. **Biology of Indigenous and Exotic carps.**
2. **Fish seed resources**
   2.1 Natural resources- Riverine resources
   2.2 Artificial resources- Induced breeding by Hypophysation
   a) Historical back ground b) Technique of Induced breeding
   c) Bundh breeding d) Chinese hatchery e) Striping method
   2.3 Transportation of fish seed and brooders
3. **Capture Fishery**
   Introduction, Capture Fishery Resources in India.
   1. Sardine fishery 2. Mackerel fishery 3.Bombay Duck fishery

UNIT III **11**

1. **Fishing Methods**
   1.1 Gears - Traps, Gill nets, Cast nets, Drag nets
   1.2 Crafts - Masula, Catamaron, Odum, Vanchi
   1.3 Recent advances in fishing methods - Electrical Fishing, Light Fishing and Fish finder
2. **Fish Diseases**
   2.1 Fish Diseases caused by Pathogens and Parasites- Symptoms and Treatment
   a) **Bacterial-** Dropsy, Furunculosis, Tailrot or Finrot
   b) **Fungal-** Gillrot, Dermatomycoses c) **Protozoan-** Costiasis, Ichthyophithirius
   d) **Helminth-** Gyrodactylosis, Dactylogyrosis e)**Arthropod-** Lernaeasis, Argulusis

2.2 Non parasitic diseases- a) Environmental fish diseases- Acidosis, Alkalosis, Gas bubble
b) Nutritional / Dietary diseases

UNIT IV **11**

1. **Fish Preservation and Processing**
   a) Causes of spoilage of fishes
   b) **Methods of fish preservation –** Chilling, Freezing, Freezing-drying, Smoking, Drying, Salting and Canning.
2. **Fish By-products-**Fish Oil (Fish Liver oil and Fish body oil), Fish Meal, Fish Manure, Fish Protein, Isinglass, Fish Glue, Fish Leather, Fish Pearls, Fish Soap, Fish Insulin.

Objectives:

1. Ability and skill to design and construct a fish farm.
2. Skill to describe and undertake different methods of fish breeding.
3. Describe different food fish species and their capture methods used in India.
4. Elaborate about different fishing craft and gear used in Indian capture fishery.
5. Knowledge of fish diseases and skill to treat sick fish with appropriate techniques.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -V

Paper: DSEZ-I; Section –B **Title of Paper: Paper-XIIIB -Applied Parasitology-I (Parasitic Protozoa and Platyhelminthes)**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To introduce students to the basic concepts of Applied parasitology.
2. To expose students to the knowledge of host-parasite relationship and life cycle of parasites.
3. To give students a broad perspective of epidemiology, transmission, control and treatment of parasitic diseases caused by protozoans and platyhelminthes.
4. To familiarize students with morphologic criteria for differentiating between the most common protozoan and helminth parasites.
5. To study endemic and national parasitic problems.
6. To understand the bionomics of common animal and human parasites.

Unit -I **11**

1. **Introduction to Parasitology** :
   1.1 Brief introduction of Parasitology, Parasitism, Parasite, Host, Vector, Host parasite relationship.
   1.2 Scope and Branches of Parasitology.
2. **Parasitic Protozoa:** Classification and general organization of parasitic Protozoa
3. Study of Systematic Position, Geographical distribution, Morphology, Life Cycle, Pathogenicity, Diagnosis, Prophylaxis and Treatment of
   1. Entamoeba histolytica, *2. Giardia intestinalis,* *3. Trichomonas vaginalis*

Unit – II **12**

Study of Systematic Position, Geographical distribution, Morphology, Life Cycle, Pathogenicity, Diagnosis, Prophylaxis and Treatment of

1. Trypanosoma gambiense *2. Balantidium coli*
3. Sarcocystis cruzi, *4. Plasmodium vivax*
5. Eimeria tenella

Unit – III **11**

Parasitic Platyhelminthes: Trematodes

1. Introduction, Classification, General organization of Trematodes.

2. Study of Systematic Position, Geographical distribution, Morphology, Life Cycle, Pathogenicity, Diagnosis, Prophylaxis and Treatment of-
   1. Schistosoma haematobium. *2. Paragonimus westermani.*
   3. Gastrodiscoides hominis.

3. Parasitic adaptations in Trematodes.

4. Larval forms in Trematodes.

Unit – IV **11**

Parasitic Platyhelminthes: Cestodes

1. Introduction, Classification, General organization of Cestodes.

2. Study of Systematic Position, Geographical distribution, Morphology, Life Cycle, Pathogenicity, Diagnosis, Prophylaxis and Treatment of-

1. Taenia saginata. *2. Taenia solium* *3. Echinococcus granulosus.*

3. Parasitic adaptations in Cestodes

4. Larval forms in Cestodes

Outcomes:

1. Demonstrate understanding of basics Applied parasitology; host-parasite relationships and life cycle of parasites.
2. An understanding of epidemiology, disease transmission and control & treatment of parasitic diseases caused by protozoans and platyhelminthes.
3. An ability to identify and describe common protozoan and helminth parasites.
4. Knowledge of locally occurring human parasites and national parasitic diseases.
5. An understanding of economic cost of animal and human parasitic diseases.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -V

Paper: DSEZ-I; Section -B **Title of Paper: Paper- XIII (C)- Entomology-I (General Entomology)**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To define general entomology and classification of insects.
2. To acquaint students with the morphology and anatomy of selected insect species.
3. To introduce students to insect biology and insect ecology.
4. To acquire knowledge of methods of insect collection, preservation and curation.

UNIT –I **06**

Introduction:

1. Importance and Scope of Entomology- (Agriculture, Forest, Medical, Forensic and Industrial)
2. Salient features of class Insecta.
3. Methods of collection, preservation and study of insects.

UNIT -II **15**

Type study: Cockroach

1. Classification, External Morphology including sexual dimorphism.
2. Digestive system
3. Respiratory system
4. Nervous system and Sense organs
5. Reproductive system

UNIT –III **12**

Insect Taxonomy

Salient features with suitable examples of following orders:

a) Thysanura b) Orthoptera c) Odonata d) Diptera
e) Isoptera g) Hymenoptera h) Lepidoptera i) Coleoptera

UNIT –IV **12**

Insect Metamorphosis-

1. General idea about metamorphosis and Types of Metamorphosis
   Ametabola, Hemimetabola, Paurometabola and Holometabola.
2. Hormonal control of metamorphosis in insects.
3. Insect Ecology: Effect of light, temperature, humidity and food on insect life.

Outcomes:

1. Ability to describe general entomology and elaborate on taxonomy of insects.
2. Describe the morphology and anatomy of insects.
3. An understanding of biology and ecology of insects.
4. Knowledge and skill of insect collection, preservation and curation.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -V

Paper: DSEZ-I; Section -B **Title of Paper: Paper- XIII (D)-Environmental Biology- I**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To study fundamental structure and function of earth ecosystem.
2. To develop knowledge base about attributes of different types of ecosystems.
3. To study Biodiversity, its classification and identify threats to Biodiversity.
4. To gain critical understanding of human influence on Biodiversity.
5. To equip students with contemporary tools and technique for ecosystem and wildlife conservation.

Unit-I **12**

1. Introduction and Scope of Environmental Biology

1.1 Atmosphere: Composition, Structure and Importance

1.2 Hydrosphere: Chemical and Physical properties of water

1.3 Lithosphere: Structure and Composition, Physical and chemical properties of soil. Soil profile and process of soil formation

2. Biogeochemical Cycles

2.1 Hydrological Cycle 2.2 Nitrogen Cycle

2.3 Carbon Cycle 2.4 Sulphur Cycle

Unit: II **11**

1. Ecosystem

1.1 Concept and structural components of an Ecosystem

1.2 Energy flow in an ecosystem

1.3 Ecological pyramids-

Pyramid of Numbers, Pyramid of Biomass and Pyramid of Energy.

1.4 Food chains and Food web

(a) Food chains-Grazing, Parasitic, Saprophytic or Detritus food chain

(b) Food web.

2. Marine Ecosystem-

2.1 Zonation in- a) Marine habitat b) Intertidal habitat

Unit – III **11**

1. **Biodiversity-** Concept and Characteristics of Biodiversity

1.1 Role of Biodiversity

1.2 **Threats to Biodiversity-** Habitat degradation and its loss, Invasion of non native species, Species interdependence, Soil Erosion, pollution, Over- Exploitation of Resources, Change in the Global Environment.

1.3 Biodiversity conservation

i) In-Situ conservation ii) Ex-Situ conservation

1.4 Biodiversity of India

Unit-IV **11**

1. **Wild life and its conservation-**
   1.1 Aims and Necessity of Wild life Conservation
   1.2 Causes for wild life depletion.
   1.3 Management and Conservation of wild life
   1.4 Sanctuaries and Zoological Parks in India

Outcomes:

1. Knowledge of the structure and function of earth's ecosystem.
2. An understanding of different types of ecosystems and biodiversity
3. An ability to classify biodiversity and identify threats to biodiversity.
4. An understanding of human influence on biodiversity.
5. Knowledge of modern tools and technique for study and conservation of ecosystem and wildlife.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -VI

Paper: DSEZ-II; Section -A **Title of Paper: Paper- XIV-Ethology, Biometry and Bioinformatics**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To study the behavior of organism in nature; and generate interest in complexities of ethology.
2. To understand the basic concepts and techniques of Biometry.
3. To get acquainted with and apply the fundamentals of statistical methods.
4. To give students an introduction to the basic practical techniques of bioinformatics.
5. To study the application of biological databases for problem solving in research.

UNIT – I Ethology **09**

1. **Classification of Animal Behavior-**
   - 1.1. Inborn or stereotyped animal behavior – Taxis and Instincts with examples.
   - 1.2. Acquired animal behavior – Imprinting, Conditioning, Habituation, Reasoning.
   - 1.3 Social Behaviour in Insects –Honeybee.

UNIT – II Ethology **12**

1. **Communication in animals**
   - 1.1 Auditory Communication
   - 1.2 Chemical Communication
   - 1.3 Visual Communication
   - 1.4 Tactile Communication
2. **Mimicry and Colouration**
   - 2.1 Types of Mimicry- Protective and Aggressive
   - 2.2 Types of Colouration- Protective, Aggressive and Warning

UNIT – III Biometry **12**

1. **Collection and Classification of Data**
   - 1.1 Methods of collection of data
   - 1.2 Types of classification of data - Geographical, Chronological, Quantitative, Qualitative, Continuous, Discontinuous.
2. **Measures of Central Tendency**
   - Arithmetic Mean, Median and Mode
3. **Graphic Representation of Data**
   - 3.1. Histogram
   - 3.2 Pie Diagram
   - 3.3 Polygon Frequency Curve

UNIT – IV Bioinformatics **12**

- 1.1 Computer and their Applications in Biology
- 1.2 Internet and its Uses
- 1.3 World Wide Web
- 1.4 Search Engines
- 1.5 Broad Applications of Bioinformatics
- 1.6 Introduction to Biological Database- a) NCBI, b) Pub Med

Outcomes:

1. An appreciation of animal behavior and complexities of ethology.
2. Knowledge of basic concepts and techniques of biometry.
3. Knowledge and skill to apply the techniques statistical methods in biology.
4. Knowledge and understanding of practical use of computers in bioinformatics.
5. An understanding of the use of biological databases in research.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -VI

Paper: DSEZ-II; Section -B **Title of Paper: Paper- XV(A)-Aquaculture**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To introduce student to various types of aquaculture methods.
2. To impart knowledge of fishery science, mariculture, and fish processing.
3. To create awareness about man-made hazards to aquaculture.
4. To appreciate the role of Larvivorous fishes in public health.
5. To understand and appreciate the role of Government in aquaculture development.

UNIT- I **11**

1. **Introduction to Aquaculture**
   i) Definition, Scope and importance of aquaculture
   ii) Concepts of extensive aquaculture, intensive aquaculture.
2. **Types of Aquaculture**
   i) Monoculture ii) Polyculture
   iii) Integrated fish farming –
   a) Paddy-cum fish culture b) Fish-cum pig farming
   c) Cattle-cum fish farming d) Fish-cum duck farming

UNIT – II **11**

1. **Culture Methods** i) Pen culture ii) Cage culture
2. **Sewage Fed Fish Culture**
   i) Composition of sewage ii) Use of sewage for fish culture
   iii) Fish species suitable for sewage fed fish culture
3. **Man Made Hazards and Aquaculture**
   i) Domestic Sewage ii) Agricultural Sewage iii) Industrial Effluents

UNIT III **12**

1. **Characteristics of Water**
   i) Physical ii) Chemical ii) Biological
2. **Larvivorous Fishes**
   i) Characteristics of Larvicidal Fishes.
   ii) Larvicidal Fishes in India- Exotic species; Indigenous Species
   iii) Role of Larvivorous fishes in relation to Public health
3. **Aquatic weeds and their control**
   i) Types of weeds ii) Advantages and Disadvantages of weeds
   iii) Weed Control – Manual, Mechanical, Chemical and Biological

UNIT IV **11**

1. **Culture of Non Fish Organisms**
    1. Fresh water Prawn Culture
    2. Pearl Oyster Culture and Edible Oyster Culture
    3. Mussel Culture
2. **Mariculture**
    i) Introduction ii) Types of Mariculture iii) Fish Species for Mariculture
3. **Government Participation in Aquaculture**
    ICAR, Ministry of Agriculture, Ministry of Commerce, Ministry of Food Processing Industry.

Outcomes:

1. Knowledge and understanding of aquaculture methods, mariculture, and fish processing.
2. An understanding of the different man-made hazards to aquaculture.
3. Knowledge and skill to use different species of locally available larvivorous fish in vector control.
4. Knowledge and understanding of the role of Government agencies in development of aquaculture.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -VI

Paper: DSEZ-II; Section -B **Title of Paper: Paper- XV (B) Applied Parasitology-II (Parasitic Nematodes and Arthropods)**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To provide a broad-based knowledge and understanding of Parasitology in relation to Parasitic Nematodes and Arthropods.
2. To understand the morphology, basic biology of nematodes in relation to their taxonomy and pathogenicity in plants and animals.
3. To understand and apply the principles of controlling nematode parasites in plants and animals.
4. To describe the basics of arthropods of public health importance.
5. To study vector-host-pathogen relationships in arthropod-borne diseases.
6. To study surveillance techniques, diagnosis and control measures of vector-borne diseases.

UNIT –I **12**

Parasitic Nematodes: Animal Nematodes

1. Introduction, Classification, General organization of Animal Nematodes.
2. Study of Systematic Position, Geographical distribution, Morphology, Life Cycle, Pathogenicity, Diagnosis, Prophylaxis and Treatment of-
   1. Enterobius vermicularis *2. Ancylostoma duodenale* *3. Wuchereria bancrofti.*
3. Larval forms in Animal Nematodes

UNIT – II **11**

Parasitic Nematodes: Plant Nematodes

1. Introduction, Classification, General organization of Plant Nematodes
2. Study of Systematic Position, Geographical distribution, Morphology, Life Cycle, Pathogenicity, Diagnosis, Prophylaxis and Treatment of-
   1. Meloidogyne (Root knot nematode) 2. *Heterodera* (Cyst nematode)
   3. Tylenchulus (Citrus nematode)

UNIT – III **11**

Parasitic Arthropodes

1. Systematic Position, Geographical Distribution, Morphology, Life Cycle, diseases and Control Measures of–

   a) Acarina- Ticks & Mites. b) Parasitic Hemiptera -Bed Bug *(Cimex lecturalius)*

2. Parasitic flies-Outline Classification, Morphology, role as vectors of Human diseases and Control Measures of House Fly (*Musca domestica*), Bot Fly (*Dermatobia hominis*)

UNIT – IV **11**

1. Morphology, pathogenecity and Control Measures of –
   i) *Siphonaptera* ii) *Anopleura* iii) *Mallophaga* iv) *Hymenoptera*

2. Mosquitoes as a vector in the transmission of Malaria, Dengue fever, Elephantiasis, Yellow Fever, Chikungunya and their control measures.
3. Chemical and Biological Control of Insects.

Outcomes:

1. An understanding of Parasitology of Nematodes and Arthropods.
2. Knowledge of morphology, biology, taxonomy & pathogenicity of nematodes in plants and animals.
3. Knowledge and skill to implement control measures against nematode parasites.
4. Understanding and knowledge of arthropods of public health importance.
5. Knowledge of vector-host-pathogen relationships in arthropod transmitted diseases.
6. An understanding of the different surveillance techniques and diagnosis methods used in control of and management of vector-borne diseases.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -VI

Paper: DSEZ-II; Section -B **Title of Paper: Paper- XV (C)-Entomology-II (Applied Entomology)**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To acquire knowledge of ecology and biology of insects of medical and agricultural importance.
2. To study the different beneficial and harmful insect species.
3. Understand insect pest management techniques like cultural, physical, Biological, chemical, IPM etc.
4. To study various types of insecticides and problems associated with their use.
5. To acquire knowledge and skill of application of insecticides & maintenance of pest control equipment.

UNIT- I **12**

1. **Pest**
   1.1 Concept of a Pest
   1.2 Types of Pests: Agricultural, Veterinary and Human Pests and Household Pests
2. **Study of Agriculture Pests (Classification bionomics, control measures of the following)-**
   a) Cotton-Boll worm, red cotton bug b) Jawar-stem borer, Midge fly
   c) Sugarcane- Pyrilla d) Oil seeds- Ground nut White grub, Safflower-aphid
   e) Fruits- Lemon butter fly, Mango Stem borer, mango stone weevil
   f) Stored grain pest- Rice weevil, Pulse Beetle

UNIT- II **11**

1. **Human and Household insect pests (Structure, Binomics and control measures of the following)-**
   a) Housefly b) Cockroach c) Cricket d) Mosquito
   e) Rat flea f) Bed bug g) Head louse
2. **Study of non-insect animal pests and their control-**
   a) Rat b) Pig c) Monkey d) Birds e) Deer

UNIT- III **11**

1. **Culture of Beneficial Insect (Gross Study)-**
   a) Sericulture b) Apiculture c) Lac culture

UNIT- IV **11**

1. **Pest Control Methods-**
   a) Chemical control and safe handling of pesticides
   b) Biological control of insect pests
   c) Physical and Mechanical control of insect pests
   d) Integrated pest management of insect pests

Outcomes:

1. An understanding and knowledge of ecology & biology of medically and agriculturally important insects.
2. Knowledge of the different beneficial and harmful insects.
3. An understanding of insect control methods- cultural, physical, biological, chemical & IPM.
4. Knowledge of types of insecticides and problems associated with their use.
5. Knowledge and skill of application of insecticides & maintaining pest control equipment.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Semester -VI

Paper: DSEZ-II; Section -B **Title of Paper: Paper- XV (D)-Environmental Biology -II**

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To interpret pollution, its causes and effects on environment.
2. To learn about mechanisms for protection of the environment from adverse effects of pollution.
3. To develop an interdisciplinary approach in the analysis of environmental issues.
4. To develop an understanding legal framework for protection of environment.
5. To impart basic knowledge about the environment and its allied problems.

UNIT- I **11**

1. **Introduction to Environmental Pollution-**
   1.1 Origin of Pollution.
   1.2 Pollutants: The Creators of pollution,
   1.3 Types of pollutants- Biodegradable and Non- Biodegradable Pollutants.
   1.4 Kinds of pollution
2. **Water Pollution**
   2.1 Types of Water pollution, Kinds and sources of Water pollutants
   2.2 Sources and Effects of water pollution.
   a) Pollution by Sewage and Domestic Waste, Eutrophication and Algal blooms
   b) Pollution by Heavy Metals; Sources and Effects of Lead and Mercury
   2.3 Assessment and Monitoring of Water pollution.
   2.4 Control of Water pollution.

UNIT- II **12**

1. **Air Pollution: Types, Sources and Effects of Air Pollutants-**
   1.1 Thermal Power Plants, Industrial Chimney Waste, Automobile Exhausts
   1.2 Sulphate compounds as Air pollutants: Sources and Effects
   1.3 Oxides of Nitrogen as Air pollutants: Sources and Effects
   1.4 Carondioxide and Carbon Monoxide as Pollutant: Sources and effects
   1.5 Acid rains
   1.6 Ozone as a Protector and Destroyer
   1.7 Chlorofluro Carbons (CFCs)
   1.8 Photochemical Smog
2. Control of Air pollution.

UNIT-III **11**

1. **Radioactive Pollution:** Sources, Effects and Control of Radioactive pollution
2. **Pollution by Solid Wastes:** a) Types and source of Solid wastes
   b) Effects of solid waste pollution
   c) Methods of Solid wastes Disposal.

3. **Noise Pollution:** Sources, Effects and Control of Noise pollution.

UNIT-IV **11**

1. Pollution Control Legestalation

1.1 The Water (Prevention and Control of pollution) Act-1974
1.2 The Air (Prevention and Control of pollution) Act-1981
1.3 The Environment (Protection) Act- 1986
1.4 Environmental Education in India (Concept and role)
1.4 Water Resources: Infiltration, Gallflies and Wells
1.5 Water Treatment Methods: Sedimentation Tank, Aerobic Treatment, Trickling Filters, Anaerobic Treatments, Imhoff Tanks

Outcomes:

1. Ability to assimilate causes of pollution, and its effects on environment.
2. Awareness about environmental issues and problems at local, national and international level.
3. An understanding of the laws and agencies pertaining to protection of environment.
4. Knowledge about environment, pollution and related problems.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Practical Syllabus

Paper: DSEZP-I (Based on DSEZ-I; Section-A& DSEZ-II; Section-A)

Title of Paper: Paper- XVI -Ecology, Zoo-geography, Ethology, Biometry and Bioinformatics

Periods : 15 + 15 **Credits: 02 (Marks: 50)**

Objectives:

1. Assimilate skills of water testing and analysis.
2. Study adaptations of animals to different ecological and zoo-geographic conditions.
3. Study animal responses to different environmental signals.
4. Learn different techniques to analyze data using a computer.
5. Explore different online biological databases and download biological information.

Ecology

1. Estimation of Dissolved O_2 from Water Sample.
2. Estimation of Dissolved CO_2 from Water Sample.
3. Estimation of Population Density from Water Sample/ Terrestrial area.
4. Determination and study of Atmospheric Humidity.
5. Study of positive and negative interactions (biotic interaction) in animals.
6. Estimation of Chlorides, Salinity, Hardness from given water sample for Water quality status
7. Ecological Adaptations (Any two examples from each to be studied)
   a) Volant Adaptations.
   b) Aquatic Animals (from fresh water and marine environment).
   c) Desert Animals.
8. Report on a Field Visit to Zoo Park/National Park/Biodiversity Park/Wild Life Sanctuary to study management, behavior and enumeration of wild animals.

Zoogeography

1. Museum study of Vertebrate Endangered Species or Threatened Wild Animals on the Basis of charts/ models/ photographs (Any Five).
2. Identification of Zoogeographical Realms from the Map and Identify Specific Fauna of Respective Regions.

Ethology

1. To study the Positive and Negative Phototropism with suitable examples.
2. To study the Positive and Negative Chemotactic Response with suitable examples.
3. Study of Colouration of animals with suitable examples.

Biometry

1. Problems Based on Mean, Mode, Median.
2. Classification of Data- i) Histogram, ii) Pie-Diagram, iii) Polygon Frequency Curve.

Bioinformatics

1. To perform online search on Biological information/Literature
2. How to access the biological data from NCBI and Pub Med
3. BLAST- Sequence Search & alignment.

Note: All animal based practical's should be conducted with the help of Models, Charts and Computer Aided Techniques.

Outcomes:

1. Skill of handling, testing and analysis of water samples.
2. Recognition and description of animal adaptations under different ecological and zoo-geographic conditions.
3. Describe animal responses to different environmental signals.
4. Apply different techniques to gather analyze analyze data using a computer.
5. Browse, search and download information from online biological databases.

REFERENCE BOOKS BASED ON PAPER: DSEZ-I& II (SECTION A), PAPER: DSEZP-I Paper XII & XIV; XVI

1)Animal Ecology- R.K.Gupta and B.S. Malik, Pragati Prakashan, Meerut
2) Cell Biology,Genetics, Molecular Biology, Evolution and Ecology- P.S. Verma and V.K.agrawal, S. Chand and Co. Ltd. New DelhiPublication
3) Animal Behaviour- M.P. Arora, Himalaya publication.
4) Animal Behaviour- Vinod Kumar, Himalaya publication.
5) Principles of Ecology-Odum, Sunder Publication.
6) Introduction to Bioinformatics- S. Sundara Rajan, R. Balaji, Himalaya Publication.
7) Biostatistics- S.P. Gupta
8) Economic Zoology, Biostatistics and Animal Behaviour- Shukla, Mathur, Prasad, Upadhyay.
9) Animal Behaviour, Concept, Process and Method (Wadsworth)- Drickamer & Vessey.
10) Biology of Animal Behaviour- Grier
11) Introduction to Ethology (Plenum Press)- Immelmann
12) The Foundation of Ethology – Lorenz
13) An Introduction to Animal Behaviour- Manning
14) Animal Behaviour in Laboratory and Fields- Prince and Stoker
15) Ecology, Individuals, Populations and Communities-Begonm, J. L. (BlackWell Science, Oxford, UK)
16) Ecological Concept- Cherrett J. M. (BlackWell Science, Oxford, UK)
17) Fundamental of Ecological modeling-Jorgensen S.E. (Elsevier, New York)
18) Animal Behaviour- A synthesis of ethology and comparative Psychology- Hinde R.A. (Mcgraw-Hill New York)
19) Bioinformation- A Biologist Guide to Biocomputing & Internet- Brown, S.M. Eaton Publication New York
20) Fundamental Concept of Bioinformation- Krane & Raymer, Persons Education, 2003
21) Introduction to Bioinformation – Attwood & Parry- Smith, Persons Education, 2003
22) Zoogeography- Darlington
23) Practical Methods in Ecology- Peter Henderson

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B.Sc. Third Year Syllabus w.e.f. June, 2021

Zoology

Practical Question Paper

Paper: DSEZP-I (Based on DSEZ-I; Section-A& DSEZ-II; Section-A)

Title of Paper: Paper- XVI -Ecology, Zoo-geography, Ethology, Biometry and Bioinformatics

Centre: **Date:**

Batch No.: **Session:**

Marks: 40 **Time: 04 Hrs**

Q.1	Estimation of Dissolved O_2 / CO_2 from Water Sample. ***Or*** Estimation of Population Density from Water Sample/ Terrestrial area. ***Or*** Determination and study of Atmospheric Humidity. ***Or*** Identify and comment on Biotic Interactions of Animals. (Two examples of Positive interaction and Three examples of Negative interaction)	**10**
Q.2	Estimation of Chlorides& Salinity/ Hardness from given water sample for Water quality status. ***Or*** Identify and describe. (Any Two examples of Endangered species and Two example from Ecological Adaptation). ***Or*** Identification of Zoogeographical Realms (Any Two) from the Map and Identify Specific Fauna of Respective Regions	**08**
Q.3	To study the Positive and Negative Phototropism with suitable examples ***Or*** To study the Positive and Negative Chemotactic Response with suitable examples ***Or*** Study of Colouration of animals with suitable examples	**10**
Q.4	Give the diagrammatic representation of data with Histogram or Pie-Diagram or Frequency Polygon Curve. ***Or*** Solve any two problems based on Problems Based on Mean, Mode, Median. **OR** To perform online search on Biological information/Literature. ***Or*** Determine sequence of protein or DNA from the provided file. ***Or*** Any problem or activity based on bioinformatics.	**08**
Q.5	Viva-Voce	**04**

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = Total 10 Marks.

a) Submission of Record book & Submission of Report on a Field Visit = 05 Marks and

b) Internal Test on Practicals=05 Marks.

2. Demonstration of animal Dissections through Models, Charts and Computer Aided Techniques as per U.G.C Guidelines.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Syllabus

Paper: DSEZP-II (Based on DSEZ-I; Section-B& DSEZ-II; Section-B)

Title of Paper: Pisciculture and Aquaculture {XVII (A)}

Periods : 15 + 15 **Credits: 02 (Marks: 50)**

Objectives:

1. Study fish farm practices, farm management methods, fish breeding & rearing.
2. Understand fish preservation and processing; fish by-products.
3. Develop skill to identify and describe fish of economic importance.

1. Diagrammatic presentation or Layout Plan for a Typical Fish Farm.
2. Demonstratation or dissection of brain, pituitary gland, reproductive system and digestive system of any locally available bony fish.
3. Examination and Analysis of Stomach Content of Fishes (Carnivorous and Herbivorous).
4. To study the Habit and Habitat of some Indigenous and exotic culturable freshwater fishes.
5. To Study spawn, fry, Semi-fingerlings and fingerlings of Indian major carps and exotic carps.
6. To study the Habit and Habitat of some Marine water fishes for Capture Fishery (any five).
7. Preparation and identification of fishing Craft/Gear model (Using locally available material).
8. Study of Fish Diseases caused by Pathogens and Parasites (Bacterial, Fungal, Protozoan, Helminth, Arthropod etc.).
9. Study of fish Preservation Methods (e.g. Salting, Drying, Pickling, Smoking, etc.).
10. Preparation and Study of fish by-product (Fish pickle, Fish chips, decorative/utility article using fish body parts or whole fish).
11. Identification, classification and description of Fish species for Monoculture, Polyculture, Integrated fish farming and Sewage fed fish culture.
12. Estimation of O_2 content, NPK, Ca, Na in Sewage Water sample.
13. Estimation of pH, Hardness (Magnesium and Calcium) and Turbidity in water Sample.
14. Identification of Phytoplankton and Zooplanktons (any five).
15. To study the Habit and Habitat of important Larvicidal fishes (any five).
16. Identification of Common Aquatic Weeds of Freshwater Fish Ponds
17. Control of the Common Aquatic Weeds of freshwater.
18. Identification and study of Non Fish Organisms (any three).
19. Identification, classification and description of Fish species for Mariculture
20. Visit to Fish Breeding Farm/ Fish Industry and Submission of report.

Note: All animal based practical's should be conducted with the help of Models, Charts and Computer Aided Techniques.

Outcomes:

1. Perform fish farm practices, farm management, fish breeding & rearing.
2. Adopt appropriate fish preservation and processing techniques for fish by-products.
3. Ability to identify and describe fish of capture and culture food fish.

REFERENCE BOOKS BASED ON PAPER: DSEZ-I& II (SECTION B) PAPER: DSEZP-II
Paper XIII-A & XV-A; XVII (A)

1. Fish and fisheries of India- V.G. Jhingran, Hindusthan Publishing Company.
2. Fish and Fisheries – K. Pandey and J.P.Shukla, Rastogi Publications, Meerut.
3. Fisheries and Aquaculture- Ravi Shankar Piska, Lahari Publications, Hyderabad.
4. Concepts of Aquaculture- Ravi Shankar Piska, Lahari Publications, Hyderabad.
5. Fresh water fish pond culture and management – Marilyn Chakroff. Pace crops scientific publishers – Jodhapur.
6. World fish farming cultivation and Economics- E. E. Brown Pvt. Pub. Co. U. S. A. 1983.
7. Aquaculture – Bardach J. E. J. H. Ryther and W.O. Meharney Wiley – Ind. Sci., New York.
8. Aquaculture- R. J. Reay – Arnold- Heive Mann Publishers, India,
9. An Introduction to fishes – S. S. Khanna, Central Book Dept., Allahabad
10. A Manual of fresh water aquaculture – R. Sonthanam, N. Sukumaran & P. Niligajan
11. A text book of Fishery Science and Indian fisheries –C. B. C. Shrivastav Kitalb Mahal, Nagpur.
12. Principles of Ecology- P.S. Verma, V.K. Agrawal- S.Chand Publication.
13. Prawn and Prawn Fisheries of India- Kurian C. V. and Substian.
14. Fish Biology and Indian Fisheries- R. P. Parihar, Central Publishing House, Allahabad.
15. Encyclopedia of Fishes and Fisheries of India- Pandey A. K. and Sandhu.
16. Fisheries in India- Misra S.B.
17. Fisheries Global Perspective – Cherunilam.
18. Fish Processing and Preservation- Charls L. Cutting, Agro Botanical Publisheres (India)
19. Fish and fish products – Winton A. L.
20. Pond & Fish culture - Hall C. B.
21. Fishery Management – Agrawal.
22. Costal Aquaculture in India- Santhanam R.
23. Marine Fisheries of India- VirbhadraRao and Bal.
24. Introduction to fish technology- Regenstein.
25. Fresh water fish culture- Wankhede and Deshmukh.
26. Aquaculture Development- Amitabh Patel, S. N. Pathak.
27. A Text book of Aquaculture- Rao K. R. S. S., Reddy M.S., Discovery Publication, Delhi.
28. A Text Book of Pisciculture & Aquarium Keeping- H. S. Jagtap, S. N. Mukherjee & V. K. Garad., Daya Publishing House, New Delhi.
29. Practical Manual of Pisciculture and Aquarium Keeping- H. S. Jagtap, S. N. Mukherjee & S. S. Nanware, Daya Publishing House, New Delhi.
30. General and Applied Ichthyology (Fish and Fisheries)- S.K.Gupta and P.C.Gupta.S.Chand & Compony Ltd., New Delhi.
31. Manual of Experimental Ichthyology-Gahlawat, Gupta,Yadava, Jain, Sihag, Sabhlok, Daya Publishing House, Delhi
32. Modern Experimental Zoology-Gupta and Chaturvedi. Raj Publishing House, Jaipur.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Question Paper

Paper: DSEZP-II (Based on DSEZ-I; Section-B& DSEZ-II; Section-B)

Title of Paper: Pisciculture andAquaculture {XVII (A)}

Centre: **Date:**

Batch No.: **Session:**

Marks: 40 **Time: 04 Hrs**

Q.1 Diagrammatic presentation or Layout Plan for a Typical Fish Farm **10**

OR

Dissect out/Demonstrate Brain/ Pituitary Gland/ Digestive System/ Reproductive System of any locally available bony fish

OR

Examination and Analysis of Stomach Content of Carnivorous/ Herbivorous Fish

OR

Identify, Classify and Describe Indigenous & exotic culturable freshwater fishes (Any Two), spawn/ fry/fingerlings of Indian major carp or exotic carp (Any One) and Marine water fishes for Capture Fishery (Any Two).

Q.2 Identification and description of Fishing Craft/Gear model (using locally available material). **08**

OR

Identify and describe Fish Diseases caused by Pathogens and Parasites (Bacterial/Fungal, Protozoan, Helminth, Arthropod etc.) One from Each.

OR

Study of fish preservation methods (Salting, Drying, Pickling, Smoking, etc.)

OR

Preparation and Study of fish by-product (Fish pickle/Fish chips/ decorative/ utility article using fish body parts or whole fish)

Q.3 Identification, classification and description of Fish species for Integrated fish farming (Any Three) and Sewage fed fish culture (Any Two). **10**

OR

Estimation of O_2 content/ NPK in Sewage Water sample.

Q.4 Estimation of pH/ Hardness (Magnesium and Calcium)/ Turbidity in water sample **08**

OR

Identify and Describe Phytoplankton/ Zooplanktons, Larvicidal Fish/Aquatic Weeds, Non Fish Organism and Fish Species for Mariculture (One from Each)

Q.5 Viva-Voce **04**

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = Total 10 Marks.

a) Submission of Record book & Submission of Report on a Field Visit = 05 Marks And

b) Internal Test on Practicals=05 Marks.

2. Demonstration of animal Dissections through Models, Charts and Computer Aided Techniques as per U.G.C Guidelines.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Syllabus

Paper: DSEZP-II (Based on DSEZ-I; Section-B& DSEZ-II; Section-B)

Title of Paper: Applied Parasitology {XVII (B)}

Periods : 15 + 15 **Credits: 02 (Marks: 50)**

Objectives:

1. Acquire knowledge and skill to identify, classify and describe different protozoan, helminth, nematode and arthropod parasites.
2. Study methods of preservation and mounting of protozoan, helminth, nematode and arthropod parasites.
3. Learn methods of collection and processing of soil and plant parasitic nematodes.

1 Identification, classification and description of Protozoan Parasites through permanent slides/photomicrographs-

a) Entamoeba histolytica, *b) Giardia intestinalis,*
c) Trichomonas vaginalis *d) Trypanosoma gambiense*
e) Balantidium coli *f) Sarcocystis cruzi*
g) Plasmodium sp. *h) Eimeria tenella*

2 Collection, staining, identification and description of Parasitic protozoa from Blood sample or rectal contents of suitable animals –

a) Cilliates, *b)* Flagellates, c) Malarial parasites, d) Coccidian Parasites

3 Identification, classification and description of Parasitic platyhelminths through permanent slides/photomicrographs or specimens -

a) Schistosoma haematobium *b) Fasciola hepatica*
c) Paragonimus westermani *d) Gastrodiscoides hominis*
e) Taenia saginata *f) Taenia solium*
g) Echinococcus granulosus *g) Diphyllobothrium lattum*

2. Collection, Preservation, Staining, Mounting, identification and description of Trematodes and Cestodes from locally available different hosts (Gills & intestines).

3. Identification, classification and description of Parasitic Nematodes (Animals & Plants) through permanent slides/photomicrographs or specimens –

a) Enterobius vermicularis *b) Ancylostoma duodenale*
c) Ascaris lumbricoides *d) Wuchereria bancrofti*
e) Meloidogyne (Root knot nematode) *f) Heterodera* (Cyst nematode)
g) Tylenchulus (Citrus nematode) *h) Anguina* (Seed Gall- nematode)

6. Collection, Preservation, Mounting, identification and description of Animal Nematodes from locally available different hosts (intestines).

7. Collection, Preservation, Mounting, identification and description of Plant Nematodes from soil samples.

8. Study of following arthropods through permanent slides/ photographs:
Aedes, Culex, Anopheles, Pediculus humanus, Xenopsylla cheopis, Cimex lectularius Phlebotomus argentipes, Musca domestica.

9 **Collection, preservation, Preparation of permanent slides and description of mouth-parts of -**
House fly ii. Mosquito iii. Bed bug iv. Head louse

10. Submission of a brief report on parasites of vertebrates.

Note: All animal based practical's should be conducted with the help of Models, Charts and Computer Aided Techniques.

Outcomes:

1. Demonstrate knowledge and skill of identifying, classifying and describing different protozoan, helminth, nematode and arthropod parasites.
2. Perform preservation and mounting of protozoan, helminth, nematode and arthropod parasites.
3. Carry out collection and processing of soil and plant parasitic nematodes.

REFERENCE BOOKS BASED ON PAPER: DSEZ-I& II (SECTION B) PAPER: DSEZP-II Paper XIII-B & XV-B; XVII (B)

1. Introduction to Parasitology- Chandler and Reid.
2. Parasitology – K. D. Chatterjee.
3. Essentials of Parasitology- Gerald D. Schmidt, 4th Edition, Universal Book Stall,
4. New Delhi, 1990, Reprint.
5. An Introduction to Parasitology- Bernard E. Mathews, Cambridge University, Press, 1998.
6. Textbook of Parasitology- Kochhar S. K., Dominant Publishers and Distributors,
7. New Delhi, 2004
8. Animal Nematodes from Indian Mammals- H. S. Nama, G. B. Shinde and B. V. Jadhav
9. Applied Parasitology- A Practical Manual – C. J. Hiware, B. V. Jadhav, A. D. Mohekar, Mangaldeep Publication, Jaipur.
10. Parasitis Insects-B. D. Patnaik, Dominant Publishers and Distributors, New Delhi, 2001
11. Handbook of Entomology-T.V. R. Ayyar
12. Useful and Destructive Insects- Metacalf and Flint
13. Protozoology- Kudo
14. Biology of Protozoa- Sleials
15. Clinical Parasitology- Faust
16. Medical Helminthology- Watson
17. Indian Insect Life- Lefrey
18. General Parasitology- Cheng
19. Bench Aids for the diagnosis of Malaria- WHO, 1985.
20. Human Parasitology- Burton J. Bogistch, Clint E. Carter, Thomas N. Oeltmann. 2005. Third Edition, Elsevier Academic press.
21. Malaria: Principles and Practice of Malariology. Vol. I and II,- Warnsdorfer W.H. and Sri. Mc Gregor, I. 1998. Churchill Livingstone, New York.
22. Parasitology (Medical Zoology)- H.S.Singh and P.Rastogi. Rastogi Publications. Meerut
23. Medical Parasitology- N.C. Dey and T.K.Dey. Allied Agency, Kolkatta.
24. A Modern Text Book of Parasitology- Dr.A.N.Latey, Narendra Prakashan, Pune
25. Medical Zoology-R.C.Sobti,Shoban Lal Nagin Chand & Co., Jalandhar.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Question Paper

Paper: DSEZP-II (Based on DSEZ-I; Section-B& DSEZ-II; Section-B)

Title of Paper: Applied Parasitology {XVII (B)}

Centre: **Date:**

Batch No.: **Session:**

Marks: 40 **Time: 04 Hrs**

Q.1	Collect, Prepare a permanent slide, identify and describe Ciliates/ Flagellate/ Malarial Parasites/ Coccidian parasites from Blood sample/ rectal contents of suitable animals OR Collect, Prepare a permanent slide, identify and describe Trematodes/ Cestodes from locally available Host (Gill/ Intestine)	**10**
Q.2	Identify, classify and describe Parasitic Protozoa (Two), Platyhelminths (One Trematode and One Cestode) by using permanent slides/photomicrographs/ or specimens.	**08**
Q.3	Collect, Prepare a permanent slide, identify and describe Animal Nematodes from locally available Host Intestine/ Plant Nematodes from soil samples. OR Prepare a permanent slides of mouth parts from the given specimen and identify by giving reasons	**10**
Q.4	Identify, classify and describe Parasitic Nematodes (One Animal Nematode and One Plant Nematode) and Arthropods (Two) by using permanent slides/photomicrographs/ or specimens.	**08**
Q.5	Viva-Voce	**04**

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = Total 10 Marks.

a) Submission of Record book & Submission of brief report on parasites of vertebrates = 05 Marks &

b) Internal Test on Practicals=05 Marks.

2. Demonstration of animal Dissections through Models, Charts and Computer Aided Techniques as per U.G.C Guidelines.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Syllabus

Paper: DSEZP-II (Based on DSEZ-I; Section-B& DSEZ-II; Section-B)

Title of Paper: Entomology {XVII (C)}

Periods : 15 + 15 **Credits: 02 (Marks: 50)**

Objectives:

1. Acquire knowledge and skill to identify, classify and describe anatomical parts, organ systems and morphology of insects.
2. Learn methods of collection, preservation and curating of insects specimens of taxonomic and medical importance.
3. Study methods of and equipment used in chemical and biological control of insect pests.

1. Study of Methods of collection, preservation and identification of insects.
2. Mounting of mouthparts of insect: Biting and Chewing, piercing and sucking, siphoning and sponging type.
3. External morphology of Cockroach, Sexual dimorphism.
4. Dissection (Cockroach): Digestive System, Respiratory, Nervous System and Reproductive System.
5. Museum Study of Insect Orders (At least two specimens from each insect order)
   a. Thysanura b. Orthoptera c. Odonata d. Hymemptera
   e. Lepidoptra f. Coleoptera g. Diptera h. Isoptera
6. Preparation and identification of permanent slide and study of developmental stages of Cockroach.
7. Collection, Identification and preservation of agricultural insect pests from local area (Minimum 10).
8. Collection, Preservation and Study of House hold and medically important Pests: Rat flea, Housefly, Head louse, Mosquito, Crickets.
9. Study of non insect animal pests:
   a. Rat b. Birds c. Monkey d. Pig e. Deer f. Ticks & Mites
10. Collection and submission of major crop insect pests from local area (at least 10).
11. Preparation and identification of permanent slides and study the Life Cycle (developmental stages) of Silk moth, Honeybee, Lac insects.
12. To study Equipments used in Sericulture, Apiculture, Lac culture.
13. Study of vertebrates important for biological control against insect pests - Guppy fish, Frog, Gecko, Wood pecker, Bat, Scaly anteater etc.
14. Demonstration of use of different equipments such as drills, sprayers, dusters for insect control.
15. Study tour: At least two visits to the crop fields, Agricultural Research Institutes and submission of Study tour report along with photographic documentation of Entomology related issues.

Note: All animal based practicals should be conducted with the help of Models, Charts and Computer Aided Techniques.

Outcomes:

1. Demonstrate awareness of, and skill to identify, classify and describe anatomical parts, organ systems and morphology of insects.
2. Explain the different methods of collection, preservation and curating of insects specimens.
3. Ability to handle equipment and other tools used in chemical and biological control of insect pests.

REFERENCE BOOKS BASED ON PAPER: DSEZ-I& II (SECTION B) PAPER: DSEZP-II Paper XIII-C & XV-C; XVII (C)

1. K. K. Nayar, TnantKirshnanand B.W. David- General and applied Entomology.
2. C. L. Metcalf and W. P. fling- Destructive and useful inset.
3. Hemsingpruthi: A Text Book of Agricultural Entomology
4. Wigglesworth: Principles of insect physiology.
5. ESSIG: College entomology.
6. M. S. Mani: A text book of General Entomology.
7. Government of Maharashtra: Crop pests and how to fight them.
8. Oldoyd, N.: A collection, preserving and studying insects.
9. Roger P. and Anderson: Forest and Shade tree Entomology.
10. D. B. Tembhare: Modern Entomology
11. R. E. Fradt: Fundamentals of Applied Entomology.
12. K. C. V. Smith: Insects and other Arthropods of Medical
13. D. N. Ray and A. W. A Brown: Entomology Medical and Veterinary
14. Chandler A. C. and Read C.P. -Introduction of Parasitology.
15. P. Debatch: Biological control of natural enemies.
16. Apple J. L. and Smith R.F.: Integrated Pest Management.
17. Cheny: General Parasitology.
18. Corbet J.R.: The biochemical mode of action of Pesticides.
19. Champman R. F.: Insects – Structure and Function.
20. O. W. Richards and R. G. Davies: Imms Text Book of Entomology
21. Bursell E.: An introduction to insect physiology.
22. Rockstein M Vol. (I-VI): The Physiology of Insects.
23. Shrivastave K. P. Vol (I-III): A Text Book of Applied Entomology
24. Hohanson O. A.: Ebryology of Insects and Myriopods.
25. Ross H. A.: A Text Book of Entomology.
26. Srivastava K.P.: A Text Book of Applied Entomology – II
27. Alaka Prakash- Laboratory manual of entomology.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Question Paper

Paper: DSEZP-II (Based on DSEZ-I; Section-B& DSEZ-II; Section-B)

Title of Paper: Entomology {XVII (C)}

Centre: **Date:**

Batch No.: **Session:**

Marks: 40 **Time: 04 Hrs**

Q.1	Prepare a slides of Insect from the given Material and identify giving reasons with description/ Prepare a slides of mouth parts from the given Material and identify with comments. **OR** Dissect/Demonstrate Digestive /Respiratory/ Nervous / Reproductive System of Cockroach.	**10**
Q.2	Identify, classify and describe salient features of specimens from orders Viz. Thysanura, Orthoptera, Odonata, Hymemptera, Lepidoptra, Coleoptera, Diptera, Isoptera (any four) **OR** Identification/Preparation of permanent slide of developmental stages of Cockroach.	**08**
Q.3	Identify and comment on its importance of agricultural insect pests (Three), Human and House hold Pests (Two) ***Or*** Preparation of permanent slides of agricultural insect pests/ Human Pests/ House hold Pests from given material. ***Or*** Identify and comment on its importance of non insect animal pest and their Control viz. Rat , Bird, Monkey, Pig, Deer	**10**
Q.4	To study the Life cycle (developmental stages) of Silk moth/ Honey bee/ Lac insect by using charts/models **OR** Comments on Equipments used in Sericulture/ Apiculture/ Lac culture. **OR** Identification, classification and description of Vertebrates important for biological control (any Two) and Identification and description of equipments for household insect control (any Two)	**08**
Q.5	Viva-Voce	**04**

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = Total 10 Marks.

a) Submission of Record book & Submission of Report on a Field Visit = 05 Marks And

b) Internal Test on Practicals=05 Marks.

2. Demonstration of animal Dissections through Models, Charts and Computer Aided Techniques as per U.G.C Guidelines.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Syllabus

Paper: DSEZP-II (Based on DSEZ-I; Section-B& DSEZ-II; Section-B)

Title of the Paper: Environmental Biology {XVII (D)}

Periods : 15 + 15 **Credits: 02 (Marks: 50)**

Objectives:

1. Acquire practical skill of measuring different environmental parameters of water, air and soil.
2. Study techniques of identification of plant and animal biodiversity of an ecosystem.
3. Learn about quantification techniques of pollutants in abiotic and biotic components of an ecosystem.

1) Recording of Atmospheric Temperature and
2) Recording of Relative Humidity.
3) Estimation of Dissolved Oxygen Content (DO), free Carbon dioxide (CO_2) in Water sample.
4) To estimate Total Dissolved Solids (TDS), Suspended Solids in Water sample.
5) Qualitative and Quantitative Study of Phytoplankton and Zooplankton in water sample.
6) Estimation of Chlorides & Salinity from Water Sample to Assess the Water Quality.
7) Comparative analysis of air sampling from clean and polluted area using key parameters.
8) To estimate pH of Water sample and Soil Sample by pH Meter.
9) To study the physical characteristic (Texture, Colour and Temperature) of the soil
10) To Estimate Organic Matter in soil sample.
11) Detection of NPK in the soil sample.
12) Demonstration of basic equipment needed in wildlife studies use, care and maintenance.
13) Identification of flora, insect and avian fauna.
14) Field Visit to Biodiversity Park/Wild Life Sanctuary/ Zoo Park/National Park/ to study wild animals
15) Effect of Heavy Metals/Pesticide on Oxygen consumption of Crab/Fish any suitable animal.
16) Effects of Pollutant/Pesticide on Heart beats of/ Any Suitable animal.
17) To Study Effects of Hydrogen sulphide gas pollutant on the Plant parts.
18) Field visit to river/lake and water and wastewater treatment plants.

Note: All animal based practical's should be conducted with the help of Models, Charts and Computer Aided Techniques.

Outcomes:

1. Ability to measure different environmental parameters of water, air and soil.
2. Skill of identification of plant and animal biodiversity of an ecosystem.
3. Perform quantification of pollutants in abiotic and biotic components of an ecosystem.

REFERENCE BOOKS (BASED ON PAPER: DSEZ-I& II (SECTION B) PAPER: DSEZP-II Paper XIII-D & XV-D; XVII (D)

1. Odum – **'Ecology'**.
2. P.D. Sharma, **'Ecology and Environment'** Rastogi Publications, Meerut-250002, India.
3. Edward J. Kormondy, **'Concepts of Ecology'**, Himalaya Publications House, Mumbai.
4. Mohan P. Arora, '**Ecology'** Himalaya Publications House, Mumbai.
5. H. Loggen, **'Environmental Pollution'** 2nd Edition, Holt Reinhort Wintson (1978).
6. APHA, **'Standard methods of Examinations of Water and Waste Water'** 20th Edition (2000).
7. J. H. Seinfield , **'Air Pollution; Physical and Chemical Fundamentals'**, Mc Graw Hill, New York (1975).
8. T. N. Tiwari,V. P. Kudesia, **'Noise Pollution and it's Control'**, Pragati Prakashan, New Delhi (1990).
9. G. R. Chatwal, M. C. Mehra, **'Environmeatal Radiation, Thermal Pollution And Control'** Amol Publication, New Delhi (1989).
10. Trivedi P.K. and Goel P.K**. 'Chemical and Biological methods for Water Pollution Studies'** (Published by Environmental Publisher KARAD).
11. Trivedi P.K. and Raj Gurudeep **'Environmental Water and Soil Analysis'.**
12. Published by Akashdeep Publication House New Delhi.
13. P. S. Verma and V.K. Aggrawal :**Environmental Biology**
14. P.D. Sharma : **Environmental Biology**
15. P.D. Sharma : **Toxicology**
16. E. P. Odum : **Fundamentals of Ecology**
17. E. P. Odum : **Fundamentals of Ecology**
18. Ranganalla : **Water and Waste Water Engineering**
19. P. D. Sharma : **Microbiology**
20. P. D. Sharma : **Microbiology**
21. Kndosia : **Water Pollution**
22. M. V. Rao : **Air Pollution**
23. NEERI Nagpur : **Manual on Waste Water Analysis.**

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS-R2021) Course Structure

Faculty of Science & Technology

B. Sc. Third Year (Semester V & VI) w.e.f. June, 2021

Zoology

Practical Question Paper

Paper: DSEZP-II (Based on DSEZ-I; Section-B & DSEZ-II; Section-B)

Title of the Paper: Environmental Biology {XVII (D)}

Centre: **Date:**

Batch No.: **Session:**

Marks: 40 **Time: 04 Hrs**

Q.1	Recording of Atmospheric Temperature / Relative Humidity	**10**
	OR	
	To estimate the amount of Dissolved Oxygen Content (DO)/ free Carbon dioxide (CO_2) ***Or*** Total Dissolved Solids (TDS)/ Suspended Solids in Water sample.	
Q.2	Qualitative/ Quantitative Study of Phytoplankton/ Zooplankton in water sample. ***Or*** To estimate pH of Water sample/Soil Sample by pH Meter.	**08**
	OR	
	To study the physical characteristic (Texture, Colour and Temperature) of the soil. ***Or*** To Estimate Organic Matter in soil sample/ Detection of NPK in the soil sample.	
	OR	
	Comments on Equipments (Two) needed in wildlife studies, Identification and Comment on insect (One) and avian fauna (One).	
Q.3	Effect of Heavy Metals/Pesticide on Oxygen consumption of Crab/Fish any suitable animal.	**10**
	OR	
	Effects of Pollutant/Pesticide on Heart beats of/ Any Suitable animal.	
Q.4	To Study Effects of Hydrogen sulphide gas pollutant on the Plant parts.	**08**
	OR	
	Estimation of Chlorides & Salinity from Water Sample to Assess the Water Quality.	
Q.5	Viva-Voce	**04**

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = Total 10 Marks.

a) Submission of Record book & Submission of Report on a Field Visit = 05 Marks And

b) Internal Test on Practicals=05 Marks.

2. Demonstration of animal Dissections through Models, Charts and Computer Aided Techniques as per U.G.C Guidelines.

Swami Ramanand Teerth Marathwada University Nanded

Choice Based Credit System (CBCS-R2021)

Faculty of Science& Technology

B. Sc. Third Year (Semester V & VI)

PRACTICAL PAPER

Continuous Assessment (CA)

Subject: Zoology (All Practical Papers)

Practical Paper Number: _____

Practical Paper Title: _____

Seat No.: _____

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	Submission of Record book & Submission of Report on a Field Visit	05	
2.	Internal Test on Practicals	05	
	Total Marks	**10**	

Swami Ramanand Teerth Marathwada University Nanded

Choice Based Credit System (CBCS-R2021)

Faculty of Science& Technology

B. Sc. Third Year (Semester V & VI)

PATTERN OF THEORY QUESTION PAPER

w.e.f. Academic Year 2021-2022

SUBJECT: ZOOLOGY

Semester-V/VI

Paper:
Title of Paper:
Time- 2 Hrs **Marks : 40**

N.B.:- (i) Attempt All Questions.
(ii) All Questions carry equal Marks.
(iii) Illustrate your answers with suitable labeled diagrams wherever necessary.

Q. 1 Attempt *Any Four* of the following: (Each of Two Marks) Based on Unit I, II, III, IV 08
a)
b)
c)
d)
e)
f)
(Minimum one and maximum two from each Unit)

Q. 2 Attempt *Any Two* of the following: (Each of Four Marks) (Based on Unit I &Unit II) 08
a)
b)
c)
(Minimum one and maximum two from each Unit)

Q. 3 Attempt *Any One* of the following: (Each of Eight Marks) (Based on Unit I &Unit II) 08
a)
b)

Q. 4 Attempt *Any Two* of the following: (Each of Four Marks) (Based on Unit III &Unit IV) 08
a)
b)
c)
(Minimum one and maximum two from each Unit)

Q.5 Attempt *Any One* of the following: (Each of Eight Marks) (Based on Unit III &Unit IV) 08
a)
b)

Note: *The question paper pattern would be subject to directives of the University from time to time.*

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS-R2021)

SEMESTER PATTERN

Faculty of Science And Technology

B.Sc. THIRD Year, Semester – V

Skill Enhancement Course

SECZ –III (E): PARASITES OF PUBLIC HEALTH IMPORTANCE

Periods: 45 **Credits:02 (Marks:50)**

Objectives:

1. To provide knowledge about biology of parasites of public health importance.
2. To study the medical importance of common arthropods with special emphasis on diseases caused by them.
3. To impart training of collection, processing, identification and reporting of parasites of public health importance.

Unit I **12**

Brief introduction of Parasitology, Parasitism, Parasite, Host, Vector.

MALARIAL PARASITES.

History, Geographic distribution, Taxonomic position of different Species of malarial parasites. Distinguishing characters of different species of human malarial parasites, Life cycle, Pathogenicity, Prevention and control measures of Malarial parasites.

Practicals:

1. Preparation of stains- JSB I and II, Leishman and Giemsa.
2. Preparation of blood smears (thick and thin) and staining with JSB, Leishman and Giemsa for malaria parasite infection.
3. Dissection and examination of mosquitoes for malaria parasite infection.
4. Identification of various stages of malaria parasites:

(i) *Plasmodium vivax* (ii) *P. falciparum* (iii) *P. malariae* (iv) *P. ovale*

Unit II **11**

PARASITIC PLATYHELMINTHES

History, Geographic distribution, Morphology, Life Cycle, Pathogenicity, Prevention and control measures of *Schistosoma haematobium and Taenia solium.*

Practicals:

1. Examination of Urine and stool sample for assessment of presence and intensity of *Schistosoma* infection.
2. Collection and preservation of Cestodes from locally available hosts intestines.
3. Staining, Mounting, drawing and identification of Cestode Parasites.
4. Identification, classification and description of Parasitic platyhelminths (*Schistosoma haematobium and Taenia solium*) through permanent slides/photomicrographs or specimens.

Unit III **11**

LYMPHATIC FILARIAL PARASITES- *Wuchereria bancrofti*.

History, Geographic distribution of lymphatic filariasis, Taxonomic position of Filarial worm (*Wuchereria bancrofti*), Distinguishing characters, Life cycle, Pathogenicity, Prevention and control measures.

Practicals

1. Dissection and examination of mosquitoes for filarial parasite (*Wuchereria bancrofti)* infection.
2. Staining and examination of blood smears for detection of microfilariae.

3. Identification, classification and description of Lymphatic Filarial Parasites- *Wuchereria bancrofti* through permanent slides/photomicrographs or specimens.

Unit-IV **11**

INSECTS OF MEDICAL IMPORTANCE

Morphology, Medical importance and Control of *Pediculus humanus*, *Xenopsylla cheopis Anopheles, Culex, Aedes.*

Practicals

1.Study of arthropod vectors associated with human diseases: *Pediculus, Xenopsylla, Culex, Anopheles, Aedes*.

2.Study of different kinds of mouth parts of insects

3.Study of following insect vectors through permanent slides/ photographs:

Pediculus humanus, Xenopsylla cheopis, Aedes aegyptii, Culex pipiens, Anopheles spp.

4. Study of different diseases transmitted by insect vectors.

5. Preparation of slide mounts of insects and their mouth parts.

- Submission of a brief report on parasites of Public health importance.

Outcomes:

1. Knowledge and understanding of biology of parasites of public health importance.
2. Recognize and appreciate the medical importance of common arthropods and diseases caused by them.
3. Flawlessly perform collection, processing, identification and reporting of parasites of public health importance.

REFERENCE BOOKS

1. Introduction to Parasitology- Chandler and Reid.
2. Parasitology – K. D. Chatterjee.
3. Essentials of Parasitology- Gerald D. Schmidt, 4th Edition, Universal Book Stall, New Delhi, 1990.
4. An Introduction to Parasitology- Bernard E. Mathews, Cambridge University, Press, 1998.
5. Textbook of Parasitology- Kochhar S. K., Dominant Publishers and Distributors, New Delhi, 2004
6. Applied Parasitology- A Practical Manual – C. J. Hiware, B. V. Jadhav, A. D. Mohekar, Mangaldeep Publication, Jaipur.
7. Parasitic Insects-B. D. Patnaik, Dominant Publishers and Distributors, New Delhi, 2001.
8. Handbook of Entomology-T.V. R. Ayyar
9. Protozoology- Kudo
10. Clinical Parasitology- Faust
11. Medical Helminthology- Watson
12. Indian Insect Life- Lefrey
13. General Parasitology- Cheng
14. Bench Aids for the diagnosis of malaria- WHO, 1985.
15. Human Parasitology- Burton J. Bogistch, Clint E. Carter, Thomas N. Oeltmann. 2005. Third Edition, Elsevier Academic press.
16. Malaria: Principles and Practice of Malariology. Vol. I and II,- Warnsdorfer W.H. and Sri. Mc Gregor, I. 1998. Churchill Livingstone, New York.
17. Parasitology (Medical Zoology)- H.S.Singh and P.Rastogi. Rastogi Publications. Meerut
18. Medical Parasitology- N.C. Dey and T.K.Dey. Allied Agency, Kolkatta.
19. A Modern Text Book of Parasitology- Dr.A.N.Latey, Narendra Prakashan, Pune
20. Medical Zoology-R.C.Sobti, Shoban Lal Nagin Chand & Co., Jalandhar.

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS-R2021)

SEMESTER PATTERN

Faculty of Science And Technology

B.Sc. THIRD Year, Semester – V

Skill Enhancement Course

SECZ- III (F): VERMICULTURE AND VERMICOMPOSTING

Periods: 45 Credits: 02 (Marks: 50)

Objectives:

1. Study the morphology and biology of different species of earthworms used in vermiculture.
2. Acquire knowledge and skill of rearing earthworms and using them in vermicomposting at different scales and under different culture conditions.
3. Train in the operation and use of implements and equipment used in vermicomposting.

UNIT – I **11**

1. Vermiculture – Definition, History, scope and economic importance.
2. Earthworms-Taxonomic Position and Diversity of different species of earthworms.
3. *Eisenia fetida*- Systematic position, Morphology and Life cycle.

Practicals:

1. To Study different species of earthworms.
2. To Study morphological features of composting earthworm, *Eisenia fetida*
3. To study Life cycle of *Eisenia fetida.*
4. Identification of Earthworm cocoons and vermi casts

UNIT – II **11**

1. Common species for Vermiculture; Environmental requirements; culture methods
2. Applications of Vermiculture. 3. Earthworm Pests and Diseases.

Practicals:

1. Collection and identification of common species of earthworms for vermiculture.
2. Study of Earthworm Pests and diseases.

UNIT – III **12**

VERMICOMPOSITING

1. Vermicomposting Materials
2. **Types of vermicomposting:**
   a) Small Scale Vermicomposting b) Large Scale Vermicomposting
3. **Methods of Vermicomposting:** Bed Method, Pit Method.
4. Phases and Steps of Vermicomiposting.

Practicals:

1. Study of Vermicompost equipments, devices.
2. Preparation of Vermibeds.
3. Demonstration of preparation pit method.
4. Preparation of vermicomposting pits at local area (college or home gardens)

UNIT- IV **11**

VERMICOMPOSTING

1. Harvesting
2. Nutrient Content of Vermicompost
3. Advantages of Vermicompost

4. Vermiwash, Preperation and Applications
5. Prospects of vermi-culture as self employment venture

Practicals:

1. Collection of vermiwash and use of vermiwash.
2. To study the effect of vermicompost on any plant.
3. Visit to Agricultural Farm/Field to nearby Krishi Vidnyan Kendra to study vermicultures and vermicomposting Units.

Outcomes:

1. Knowledge of morphology and biology of earthworms used in vermiculture.
2. Ability and skill of rearing earthworms and using them in vermicomposting.
3. Proper operating of implements and equipment used in vermicomposting.

REFERENCE BOOKS

1. R.K. Bhatnagar & R.K. Palta- Earthworm Vermiculture and Vermicomposting, Kalyani Publishers, No. 1, Mahalakshmi Street, T. Nagar, Chennai -600 017.
2. P.K. Gupta - Vermi Composting for Sustainable Agriculture. AGROBIOS (India), Agro House, Behind Nasrani Cinema, Chopasani Road, Jodhpur – 342 002.
3. Sathe, T. V.- Vermiculture and Organic Farming. Daya Publishing House
4. Sultan Ahmed Ismail, - The Earthworm Book, Second Revised Edition. Other India Press, Goa, India.
5. Bhatt J.V. & S.R. Khambata (1959)- Role of Earthworms in Agriculture. Indian Council of Agricultural Research, New Delhi.
6. Dash, M.C., B.K.Senapati, P.C. Mishra (1980) - Verms and Vermicomposting. Proceedings of the National Seminar on Organic Waste Utilization and Vermicomposting Dec. 5-8, 1984, (Part B), School of Life Sciences, Sambalpur University, Jyoti Vihar, Orissa.
7. Edwards, C.A. and J.R. Lofty (1977)- Biology of Earthworms. Chapman and Hall Ltd., London.
8. Lee, K.E. (1985)- Earthworms: Their ecology and Relationship with Soils and Land Use Academic Press, Sydney.
9. Kevin, A and K.E.Lee (1989)- Earthworm for Gardeners and Fisherman" (CSIRO, Australia, Division of Soils)
10. Rahudakar V.B. (2004)- Gandul khatashivay Naisargeek Paryay, Atul Book Agency, Pune.
11. Satchel, J.E. (1983)- Earthworm Ecology Chapman Hall, London.
12. Wallwork, J.A. (1983)-Earthworm Biology. Edward Arnold (Publishers) Ltd. London.

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS-R2021)

SEMESTER PATTERN

Faculty of Science And Technology

B.Sc. THIRD Year, Semester – VI

Skill Enhancement Course

SECZ –IV (G) : AQUARIUM KEEPING

Periods: 45 Credits:02 (Marks:50)

Objectives:

1. Explore different types of aquariums and material used to fabricate them.
2. Acquire skill to handle and process material and accessories for aquarium fabrication and installation.
3. Study water parameters for a healthy aquarium.

Unit- I 11

Introduction to Aquarium Keeping, Aquarium – Definition, Shape and size

Types of aquarium- wooden, Steel, fibre glass, plastic acrylic, iron frame, full glass, garden pool etc.

Practicals:

1. To study different types of aquarium
2. Visit to Aquaria

Unit- II **12**

Construction of aquarium- Design and fabrication

Materials - Aluminum/ Iron angle, Hack sow, blade, drilling machine, Hammer, glass, glass cutter, tape, file, set square, angle cutter, sticky tape, aquarium cement, silicon tube, silicon gun etc.

Practicals:

1. Angle cutting for frame of aquarium.
2. Rivetting of angle to form a side of aquarium.
3. Fixing of glass of one side in the frame of aquarium with the help of bitumen/ aquarium cement / silicon etc.
4. Cutting of glasses of given size

Unit III **11**

Setting of Aquarium- Selection of place for aquarium, table or stand, cover for aquarium, light, watering, planting, preparation of bed-sand, gravels, rocks, coarals, back glass painting or poster, **Aquarium accessories-** Aerator, air-stone, toys, filtration, hand net, rubber tube and connectors. Thermometer, heater etc.

Practicals:

1. Identification of various aquarium tools
2. Identification of various aquarium accessories
3. Preparation of aquarium bed.
4. Watering of aquarium
5. Planting of aquarium
6. Lighting of aquarium

Unit – IV **11**

Maintenance

1. Water parameters/ test and monitor, cycling of water.
2. Cleaning of aquarium, light management

3. Food of feeding- live food and dry food/
4. Preparation of supplementary food for aquarium fishes.
5. Aquarium fishes
6. Significance of aquarium.

Practicals:

1. Cleaning of aquarium
2. Identification of aquarium fishes
3. Preparation of supplementary food from grains for aquarium fishes
4. Checking fish health
5. Marketing

Outcomes:

1. Describe different types of aquariums and raw material used to fabricate them.
2. Ability to properly handle material and accessories for aquarium fabrication and installation.
3. Identify water parameters and adjust them to normal conditions.

REFERENCE BOOKS

1. Guide to keeping and breeding the aquarium fishes (1968). Bombay aquarium Society, Mumbai.
2. Fresh water aquarium, Dawes, J.A., Roberts Royee Ltd. London
3. A Text Book of Pisciculture and Aquarium Keeping- DhananjayJadhav, Mohan Babre.
4. Hand Book of Fish aquarium- Hiware and Sonwane,
5. A Text Book of Pisciculture & Aquarium Keeping- H. S. Jagtap, S. N. Mukherjee & V. K. Garad., Daya Publishing House, New Delhi.
6. Practical Manual of Pisciculture and Aquarium Keeping- H. S. Jagtap, S. N. Mukherjee & S. S. Nanware, Daya Publishing House, New Delhi
7. The complete book of the Fresh water aquarium-Vincent Hargreaves
8. How to maintain your fresh water aquarium-ThomsRiggson
9. The Complete aquarium Book- Nilliam T. Innes.

Swami Ramanand Teerth Marathwada University, Nanded

CHOICE BASED CREDIT SYSTEM (CBCS-R2021)

SEMESTER PATTERN

Faculty of Science And Technology

B.Sc. THIRD Year, Semester – VI

Skill Enhancement Course

SECZ- IV (H): SERICULTURE

Periods: 45 Credits: 02 (Marks: 50)

Objectives:

1. Study the cultivation of mulberry plant, silk worm; identify and manage mulberry diseases.
2. Acquire skill to carry out silk worm rearing and post-cocoon processing.
3. Study silkworm diseases, their control and prevention.

UNIT– I **11**

Introduction of Sericulture

1.1 History and Scope of Sericulture, present status of sericulture in India.

1.2 Types of silkworm- Mulberry, Tasar, Eri and Muga silkworm

1.3 Systematic position, Morphology, Life Cycle of Silkworm

1.3 Cultivation of Mulbery- Planting, grafting and Harvesting.

1.4 Mulberry diseases and pest managements.

a) Foliar Disease b) Root rot Disease c) Root knot Disease d) Common pests of Mulberry

Practicals:

1. Identification of different types of silkworms.
2. Morphology of egg, larva, pupa and adult of different silkworm types.
3. Sex differentiation of Larva, Pupa and Adult Silkworms
4. Identification of root knot diseases, root galls, egg masses, larvae and nematodes

UNIT – II **12**

Silk worm Rearing

1.1 Prerequisite for silkworm rearing.

1.2 Silkworm Rearing Equipments

1.3 **Rearing Practices**- Procurement of quality seeds, Brushing, Preparation of feed bed and feeding, Bed Cleaning, Spacing, Mounting, Harvesting of Cocoons, Post Cocoon Processing- Stifling, Reeling.

1.4 Role of Environmental factors in rearing.

Practicals:

1. Estimation of Hatching and Brushing Percentage of silkworm Eggs
2. Estimation of Moisture Content of Mulberry Leaves for chawki Rearing
3. Determination of mulberry Leaf Driage in the Rearing Bed
4. Practical demonstration of cooking, reeling and re-reeling of a sample cocoon.

UNIT- III **11**

Pests and Diseases

1.1 Introduction and classification of different types of silkworm diseases

1.2 Influence of environment and Nutrition on the incidence of diseases.

1.3 Pests of silkworm: Uzi fly, dermestid beetles and vertebrates

1.4 Pathogenesis of silkworm diseases: Protozoan, viral, fungal and bacterial

1.5 Control and prevention of pests and diseases

Practicals:

1. Identification of different silkworm diseases and Method of their disposal.
2. Identification of major silkworm pests.
3. Estimation of Uzi fly infestation during late age silkworm rearing.
4. Visit to Sericulture Centre.

UNIT- IV **11**

Sericulture Economics and Marketing

1. Mulberry cultivation (per hectare) –Cost and returns under irrigation and rainfed condition.
2. Economics of egg production: Expenditure and income.
3. Economics of silkworm rearing: Investment and returns
4. Economics of silk reeling (per kg of raw silk): Cost and returns for different types of reeling establishments.
5. Sericulture marketing organization for seed cocoon, raw silk and silk fabric
6. Traditional and regulated markets, their merits and limitations

Practicals:

1. Identification of Textile fibres by physical and chemical tests—microscopic examinations, flame test and solubility test for polyester, cotton, silk.
2. Study Tour to Silk fabric manufacturing unit, Power loom and Handloom.

Objectives:

1. Ability to cultivate mulberry plant and silk worms; identify and manage mulberry diseases.
2. Properly carry out silk worm rearing and post-cocoon processing.
3. Identify and manage silkworm diseases, their control and prevention.

REFERENCE BOOKS

1. Manual on Sericulture; Food and Agriculture Organisation, Rome 1976
2. Handbook of Practical Sericulture: S.R. Ullal and M.N. Narasimhanna CSB, Bangalore
3. Silkworm Rearing and Disease of Silkworm, 1956, Ptd. By Director of Ptg., Stn. & Pub. Govt. Press, Bangalore.
4. Handbook of Silkworm Rearing: Agriculture and Technical Manual-1, Fuzi Pub. Co. Ltd., Tokyo, Japan1972.
5. Manual of Silkworm Egg Production; M. N. Narasimhanna, CSB, Bangalore 1988.
6. Improved Method of Rearing Young age silkworm; S. Krishnaswamy, reprinted CSB, Bangalore, 1986.
7. Economic Zoology-Shukla and Upadhyaya, Rastogi Publication, Meerut
8. Sericulture and Pest Management- T.V.Sathe and A.D.Jadhav Daya Books, 2001
9. Agro-Cottage Industry Sericulture- Hiware C.J.
10. Crop pests and how to fight them- Govt. of Maharashtra Pub. Bombay.
11. Sericulture Training Manual by Soo-ho-Lim, Sang-Poong Lee.

Swami Ramanand Teerth Marathwada University, Nanded
CHOICE BASED CREDIT SYSTEM (CBCS-R2021)
Faculty of Science And Technology
ZOOLOGY
B. Sc. Third Year; Semester V
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)
SECZ –III (E): PARASITES OF PUBLIC HEALTH IMPORTANCE
Or
SECZ –III (F): VERMICULTURE AND VERMICOMPOSTING

CONTINUOUS ASSESSMENT (CA)

CENTRE: **DATE:**

Maximum Marks: 25

SEAT NUMBER: ……..

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	Seminar Presentation	15	
2.	Test	10	
	Total Marks	**25**	

Swami Ramanand Teerth Marathwada University, Nanded
CHOICE BASED CREDIT SYSTEM (CBCS-R2021)
Faculty of Science And Technology
ZOOLOGY
B. Sc. Third Year; Semester VI
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)
SECZ –IV (G): AQUARIUM KEEPING
Or
SECZ –IV (H): SERICULTURE

CONTINUOUS ASSESSMENT (CA)

CENTRE: **DATE:**

Maximum Marks: 25

SEAT NUMBER: ……..

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	Seminar Presentation	15	
2.	Test	10	
	Total Marks	**25**	

Swami Ramanand Teerth Marathwada University, Nanded
CHOICE BASED CREDIT SYSTEM (CBCS-R2021)
Faculty of Science And Technology
ZOOLOGY
B. Sc. Third Year; Semester V
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)
SECZ –III (E): PARASITES OF PUBLIC HEALTH IMPORTANCE
Or
SECZ –III (F): VERMICULTURE AND VERMICOMPOSTING
END OF SEMESTER EXAMINATION (ESE)

CENTRE: **DATE:**

Maximum Marks: 25

SEAT NUMBER: ……..

Sr. No.	End of Semester Examination (ESE)	Maximum Marks	Marks Obtained
1.	Skill Work Report Submission	10	
2.	Overall Skill Judgment	10	
3.	Skill Work Presentation	05	
	Total Marks	**25**	

Name & Signature
Examiner – 1

Name & Signature
Examiner – 2

Swami Ramanand Teerth Marathwada University, Nanded
CHOICE BASED CREDIT SYSTEM (CBCS-R2021)
Faculty of Science And Technology
ZOOLOGY
B. Sc. Third Year; Semester VI
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)
SECZ –IV (G): AQUARIUM KEEPING
Or
SECZ –IV (H): SERICULTURE

END OF SEMESTER EXAMINATION (ESE)

CENTRE: **DATE:**

Maximum Marks: 25

SEAT NUMBER: ……..

Sr. No.	End of Semester Examination (ESE)	Maximum Marks	Marks Obtained
1.	Skill Work Report Submission	10	
2.	Overall Skill Judgment	10	
3.	Skill Work Presentation	05	
	Total Marks	**25**	

Name & Signature
Examiner – 1

Name & Signature
Examiner – 2

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
25 1994 - 2019 SILVER JUBILEE YEAR

ACADEMIC (1-BOARD OF STUDIES) SECTION

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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ०८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.११/४४–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

1. Agricultural Microbiology
2. Agrochemicals & Fertilizers
3. Analytical Chemistry
4. B.C.A.
5. B.Voc. (Food Processing, Preservation and Storage)
6. B.Voc. (Web Printing Technology)
7. Biochemistry
8. Bioinformatics
9. Biophysics
10. Biotechnology (Vocational)
11. Biotechonology
12. Botany
13. Chemistry
14. Computer Application (Optional)
15. Computer Science (Optional)
16. Computer Science
17. Dairy Science
18. Dyes and Drugs
19. Electronics
20. Environmental Science
21. Fishery Science
22. Food Science
23. Geology
24. Horticulture
25. Industrial Chemistry
26. Information Technology (Optional)
27. Mathematics
28. Microbiology
29. Network Technology
30. Physics
31. Software Engineering
32. Statistics
33. Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०१९–२०/२९२
दिनांक : ०३.०७.२०१९.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University, Nanded

FACULTY OF SCIENCE & TECHNOLOGY

B.Sc. First Year
Zoology
(Structure and Syllabus)

Choice Based Credit System (CBCS) Course Structure
Semester Pattern Syllabus
Effective from June, 2019

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure
Faculty of Science & Technology
B.Sc. First Year (Semester I & Semester II) Syllabus w.e.f. June, 2019
Semester Pattern; Subject: Zoology

NEWLY DESIGNED CBCS CURRICULA OF B.Sc. FIRST YEAR ZOOLOGY

Zoology deals with study of the **animals**. It embodies study of the structure, embryonic development, classification, habits, distribution and evolution of all animals, both living and extinct. There are several specializations available to students pursuing this field. There are several groups of animals studied in Zoology like Invertebrates, Vertebrates and others. In the study of zoology, there are many options to choose from depending on individual capabilities and interests.

The University has introduced the Choice Based Credit System (CBCS) in its curricula. Following is a briefing about CBCS as envisaged by the UGC.

CHOICE BASED CREDIT SYSTEM (CBCS):

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions to begin with. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

CORE COURSES:

The Core Courses (CC) offered to students of B.Sc. I Year Zoology are aimed at preparing the students for their future study and career. The students are prepared for pursuing their post-graduate studies. They would also be able to take up entrepreneurship related to biological sciences. Additionally, the students could choose to take up positions in public or private sectors like fishery, forestry, wildlife conservation, agricultural research, health services, environmental management and restoration.

THE SALIENT FEATURES:

Biodiversity of Invertebrates & **Chordates** and **Comparative Anatomy of Vertebrates** & **Developmental Biology of Vertebrates** are the two papers offered to the B.Sc. I year students in I & II semesters respectively. "Biodiversity of Invertebrates & Chordates" attempts to dwell into the study of extant groups of invertebrate and vertebrate animals. A good understanding of the relationship, environmental and evolutionary, is the core of the first paper. Added to it is also an aspect on the developmental aspects of different species of animals. The paper on "Comparative Anatomy of Vertebrates & Developmental Biology of Vertebrates" is the second paper that deals with the different forms of animal anatomy and different developmental processes. An understanding of animal structure is important to experimentation, farming or management of animals.

UTILITY OF THE COURSE:

Study of the fields of Biodiversity of Invertebrates & Chordates and Comparative Anatomy of Vertebrates & Developmental Biology of Vertebrates equips students to pursue further study in a wide variety of subjects. It also prepares the students for future research in any of the related fields. Such a broad coverage of topics in the first year of the course also helps in widening their perspective of biological sciences. The course contents offered are related to Animal Morphology, Taxonomy, Anatomy and Development. These courses would induce understanding of the subject so that the student could later take up specialized post-graduate courses and also pursue research in the relevant field. The students could also explore possibilities in developing themselves in such specialized fields to fit in the competitive environment.

Chairman,
Board of Studies in Zoology,
Faculty of Science & Technology,
Swami Ramanand Teerth Marathwada University,
Nanded-431606

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure

Faculty of Science & Technology

B. Sc. First Year (Semester I & Semester II) Syllabus w.e.f. June, 2019

Semester Pattern; Subject: Zoology

Class/ Semester	Course Number		Name of the Course/ Paper	Instruction Hrs/Week	Total Periods/ Practicals	Marks for		Total Marks	Credits
						Internal (CA)	External (ESE)		
B.Sc. F.Y. Semester I	CCZ-I Biodiversity of Invertebrates and Chordates	Section -A	PAPER I: Biodiversity of Invertebrates	03	45	10	40	50	Credit:02
		Section-B	PAPER II: Biodiversity of Chordates	03	45	10	40	50	Credit:02
B.Sc. F.Y. Semester II	CCZ-II Comparative Anatomy and Developmental Biology of Vertebrates	Section -A	PAPER III: Comparative Anatomy of Vertebrates	03	45	10	40	50	Credit:02
		Section-B	PAPER IV: Developmental Biology of Vertebrates	03	45	10	40	50	Credit:02
B.Sc. F.Y. Semester I & II	CCZP-I	Section -A & Section- B	Practical Paper- V: Biodiversity of Invertebrates and Chordates & Comparative Anatomy and Developmental Biology of Vertebrates (Practical based on P-I,II,III & IV)	03	30	20	80	100	Credit:04
					Total Credit for Semester I & II	**60**	**240**	**300**	**Credit:12**

CCZ: Core Course Zoology, **CCZP:** Core Course Zoology Practical, **CA:** Continuous Assessment;

ESE: End of Semester Examination,

Practical Paper CCZP-I for both semesters I & II respectively will be at the end of Academic Year in Annual Pattern.

Practical Internal Evaluation (Continuous Assessment CA)= 20 Marks

Submission of Record book, Excursion Report & slides =10 Marks; Internal Test on Practical=10 Marks

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure

Faculty of Science& Technology

B. Sc. Second Year (Semester III& Semester IV) Syllabus w.e.f. June, 2020

Semester Pattern; Subject: Zoology

Class/ Semester	Course Number		Name of the Course/ Paper	Instruction Hrs/Week	Total Periods/ Practicals	Marks for		Total Marks	Credits
						Internal (CA)	External (ESE)		
B.Sc. S.Y. Semester III	CCZ-III Physiology and Biochemistry	Section –A	PAPER VI: Physiology	03	45	10	40	50	Credit:02
		Section-B	PAPER VII: Biochemistry	03	45	10	40	50	Credit:02
	CCZP-II	[CCZ III (Section A & Section B)	Practical Paper- X: Physiology and Biochemistry (Practical based on P-VI & VII)	03	30	10	40	50	Credit:02
	SECZ-I		SEC-I Any one Skill to be chosen out of Two SECZ –I (A) : Haematology SECZ –I (B) : Urinology	03	45	25	25	50	Credit:02
B.Sc. S.Y. Semester IV	CCZ-IV Cell Biology, Genetics and Evolutionary Biology	Section –A	PAPER VIII: Cell Biology and Genetics	03	45	10	40	50	Credit:02
		Section-B	PAPER IX: Evolutionary Biology	03	45	10	40	50	Credit:02
	CCZP-II	[CCZ IV (Section A & Section B)	Practical Paper- XI: Cell Biology, Genetics and Evolutionary Biology (Practical based on P-VIII & IX)	03	30	10	40	50	Credit:02
	SECZ-II		SEC-II Any one Skill to be chosen out of Two SECZ –II (C): Histotechnology SECZ –II (D): Apiculture	03	45	25	25	50	Credit:02
					Total Credit for Semester III & IV	**110**	**290**	**400**	**Credit:16**

CCZ: Core Course Zoology, **CCZP:** Core Course Zoology Practical, **CA:** Continuous Assessment;

ESE: End of Semester Examination, **SECZ:** Skill Enhancement Course Zoology

SECZ: **CA-25:** Seminar-15 & Test-10 **ESE-25:** Report Submission-10; Overall Skill Judgment-10 and Presentation-05

ESE for SECs SECZ-I & SECZ-II and Practical Papers CCZP-II & CCZP-III for both semesters III & IV respectively will be at the end of Academic Year in Annual Pattern.

Practical Internal Evaluation (Continuous Assessment CA)= 10 Marks

Submission of Record book & Excursion Report =05 Marks; Internal Test on Practicals=05 Marks

Swami Ramanand Teerth Marathwada University, Nanded
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Third Year (Semester V& Semester VI) Syllabus w.e.f. June, 2021
Semester Pattern; Subject: Zoology

Class/ Semester	Course Number		Name of the Course/ Paper	Instruction Hrs/Week	Total Periods/ Practicals	Marks for		Total Marks	Credits
						Internal (CA)	External (ESE)		
B.Sc. T.Y. Semester V	DSEZ-I	Section -A	PAPER-XII- Ecology and Zoogeography	03	45	10	40	50	Credit:02
		Section-B **(Select Any one paper from A/B/C/D)**	PAPER-XIII (A): Pisciculture	03	45	10	40	50	Credit:02
			PAPER-XIII (B): Applied Parasitology - I						
			PAPER-XIII (C): Entomology- I						
			PAPER-XIII (D): Environmental Biology - I						
	DSEZP-I	[DSEZ I & II] (Section A)	Practical Paper- XVI-Ecology, Zoogeography, Ethology, Biometry and Bioinformatics (Practical based on P-XII & XIV)	03	30	10	40	50	Credit:02
	SECZ-III		SEC-III Any one Skill to be chosen out of Two SECZ –III (E) : Parasites of Public Health Importance SECZ –III (F) : Vermiculture and Vermicomposting	03	45	25	25	50	Credit:02
B.Sc. T.Y. Semester VI	DSEZ-II	Section -A	PAPER-XIV-Ethology, Biometry and Bioinformatics	03	45	10	40	50	Credit:02
		Section-B **(Select Any one paper from A/B/C/D)**	PAPER-XV (A): Aquaculture	03	45	10	40	50	Credit:02
			PAPER-XV (B): Applied Parasitology - II						
			PAPER-XV (C): Entomology- II						
			PAPER-XV (D): Environmental Biology - II						
	DSEZP-II	[DSEZ I & II] (Section B) **{Select Any one paper from A/B/C/D}**	Practical Paper- XVII (A): Pisciculture and Aquaculture (Practical based on P-XIII(A)& XV (A))	03	30	10	40	50	Credit:02
			Practical Paper- XVII (B): Applied Parasitology – I& II (Practical based on P-XIII(B)& XV (B))						
			Practical Paper- XVII (C): Entomology – I& II (Practical based on P-XIII(C)& XV (C))						
			Practical Paper- XVII (D): Environmental Biology – I & II (Practical based on P-XIII(D)& XV (D))						
	SECZ-IV		SEC-IV Any one Skill to be chosen out of Two SECZ –IV (G): Aquarium Keeping SECZ –IV (H): Sericulture	03	45	25	25	50	Credit:02
					Total Credit for Semester V & VI	**110**	**290**	**400**	**Credit:16**

DSEZ: Discipline Specific Elective Course Zoology, **DSEZP:** Discipline Specific Elective Course Zoology Practical, **CA:** Continuous Assessment;
ESE: End of Semester Examination, **SECZ:** Skill Enhancement Course Zoology
SECZ: **CA-25:** Seminar-15 & Test-10 **ESE-25:** Report Submission-10; Overall Skill Judgment-10 and Presentation-05

ESE for SECs SECZ-III & SECZ-IV and Practical Papers DSEZP-I & DSEZP-II(A/B/C/D) for both semesters V & VI respectively will be at the end of Academic Year in Annual Pattern.

Practical Internal Evaluation (Continuous Assessment CA)= 10 Marks
Submission of Record book & Excursion Report =05 Marks; Internal Test on Practicals=05 Marks

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. First Year Syllabus w.e.f. June, 2019
Zoology
Semester -I

Paper: CCZ-I: Biodiversity of Invertebrates and Chordates

Section –A **Title of Paper: Paper-I :**Biodiversity of Invertebrates

Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To broadly understand Biodiversity, Habitat, Adaptation, Anatomical organization and taxonomic status of invertebrates phyla in relation to other animal taxa.
2. Understanding the basis of biological classification and its conceptual framework.
3. Appreciating the structural and functional correlation between different invertebrate groups.

UNIT – I **11**

1. **Introduction of Non-chordates**
2. **Protozoa:** General characters and classification up to class level with suitable examples; Locomotory Organelles and locomotion in Protozoa.
   Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of *Plasmodium vivax.*
3. **Porifera:-**General characters and classification up to class level with suitable examples; Canal System in *Sycon;* Economic importance of Porifera.

UNIT – II **12**

1. **Coelenterata:** General characters and classification up to class level with suitable examples; Polymorphism in Hydrozoa.
2. **Platyhelminthes:** General characters and classification up to class level with suitable examples; Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of *Taenia solium.*
3. **Nemathelminthes:** General characters and classification up to class level with suitable examples; Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of *Ascaris lumbricoides.*

UNIT – III **11**

1. **Annelida:** General characters and classification up to class level with suitable examples; Metamerism in Annelida; vermiculture and vermicomposting.
2. **Arthropoda:** General characters and classification up to class level with suitable examples; Metamorphosis in Insects.
   Cockroach- External Morphology, Digestive system, Respiratory system, Nervous system.
   Economic importance of insects.

UNIT – IV **11**

1. **Mollusca:** General characters and classification up to class level with suitable examples; Economic importance of mollusca.
2. **Echinodermata:** General characters and classification up to class level with suitable examples; Star Fish- External Morphology, Larval forms in Echinoderms.
3. **Hemichordata**:General Characters and Affinities.

Outcome of the Course:

1. The student will be able to identify a given invertebrate upto class level.
2. Ability to understand the contribution of Invertebrates in the biodiversity index of any given habitat.
3. Ability to understand and appreciate the ecological and economic importance of invertebrates and vertebrates.
4. Ability to identify and describe external morphology and internal anatomical features of representative invertebrate species.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. First Year Syllabus w.e.f. June, 2019
Zoology
Semester -I

Paper: CCZ-I: Biodiversity of Invertebrates and Chordates
Section –B **Title of Paper: Paper-II :** Biodiversity of Chordates
Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:
1. To understand Biodiversity, Habitat, Adaptation organization and taxonomic status of Chordates.
2. Explaining the basic aspects of classification of chordates.
3. Develop the ability to understand structural and functional details of Chordates.
4. Develop a broad and correlated view of all chordate groups: extinct and living.
5. Acquire the skill to correlate anatomical and morphological aspects of different chordate groups.

UNIT – I **11**

1. **Introduction of Chordates**
   Salient features and classification of chordates up to class level.
   Origin and Ancestry of Chordata
2. **Protochordata: Urochordata-**General features and Phylogeny of Urochordata;
   Cephalochordata- General features and Phylogeny of Cephalochordata.
3. **Agnatha :** General characters and classification of Agnatha with suitable examples.
   Cyclostomata: General characters with suitable examples.

UNIT – II **12**

1. **Pisces:** General characters and classification up to order level with suitable examples;
   Scoliodon (Dogfish): External morphology, Digestive system, Respiratory system, Circulatory System, Nervous system, Urinogenital system.
   Economic importance of Fishes.
2. **Amphibia:** General characters and classification up to order level with suitable examples; Parental care in Amphibians; Hibernation and aestivation in Frog.

UNIT – III **11**

1. **Reptiles:** General characters and classification up to order level with suitable examples; Poisonous and non-poisonous snakes; Biting mechanism in snakes; Importance of snake Venom.
2. **Aves:** General characters and classification up to order level with suitable examples; Flight adaptations in birds; Migration in birds.

UNIT – IV **11**

1. **Mammals:** General characters and classification up to order level with suitable examples.
   Rat- External characters, Digestive system, Respiratory system, Circulatory system, Nervous system - Brain and spinal cord, Eye and Ear.

Outcome of the Course:
1. The student will be able to identify and understand the Biodiversity of Chordates.
2. Ability to understand anatomical relation between different vertebrate classes.
3. The learner will be able to understand the economic importance of Chordates.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. First Year Syllabus w.e.f. June, 2019
Zoology
Semester –II

Paper: CCZ-II: Comparative Anatomy and Developmental Biology of Vertebrates
Section –A **Title of Paper: Paper-III:** Comparative Anatomy of Vertebrates
Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:
1. To understand Anatomical structure of Vertebrates.
2. Explaining the basic aspects of evolution of various organs of vertebrates.
3. Understand the phylogenetic progression in vertebrate body and its systems.
4. To know about the extreme specialization in different organ systems in vertebrate groups in response to the environment.

UNIT – I **11**
1. General characters, origin and Ancestry of Vertebrates.
2. **Integumentary System:**
   Development, General structure and function of integument;
   Derivatives of integument- Epidermal and Dermal derivatives;
3. **Skeletal System-** Evolution of visceral arches; Comparative account of Limbs and girdles.

UNIT – II **12**
1. **Digestive System:**
   Brief account of alimentary canal and digestive glands.
2. **Respiratory System:** Brief account of different respiratory organs in vertebrates- Gills, lungs, skin, air sacs and Accessory respiratory organs.

UNIT – III **11**
1. **Circulatory System:** Brief account of Evolution of heart in vertebrates.
   Modifications of aortic arches in vertebrates;
   Blood circulation in various vertebrate groups- Single and Double circulation
2. **Urinogenital System:** Developmental Succession of kidney, Evolution of urinogenital system in vertebrates.

UNIT – IV **11**
1. **Nervous System:** Structure of Neuron; Comparative account of Brain of Vertebrates.
2. **Sense Organs** - Types of receptors- Mechanoreceptors; Photoreceptors; Phonoreceptors.

Outcome of the Course:

1. The student will be able to identify and understand comparative anatomical structure of vertebrate organ systems.
2. The learner will be able to understand the evolution of various organs and systems in the vertebrate body according to its environment.
3. Understand the plasticity of organ systems to adapt to the environment and acquire different novel forms.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. First Year Syllabus w.e.f. June, 2019
Zoology
Semester –II

Paper: CCZ-II: Comparative Anatomy and Developmental Biology of Vertebrates
Section –B **Title of Paper: Paper-IV :**Developmental Biology of Vertebrates
Periods : 45 **Credits: 02 (Marks: 50)**

Objectives:
1. To get an insight into embryonic development of vertebrates.
2. To correlate developmental stages of different vertebrate groups.
3. To identify and describe the different embryonic structures of vertebrates.
4. To grasp the basic processes of human development.

UNIT – I **11**
1. **Introduction of Developmental Biology**
2. **Early Embryonic Development:** Gametogenesis: Spermatogenesis and oogenesis in mammals; vitellogenesis in birds;

3. Types of eggs:
a) On the basis of amount of yolk
b) On the basis of distribution of yolk

UNIT – II **11**
1. **Gametes of Frog:** a) Structure of sperm; b) Structure of ovum;
2. **Frog Embryology:** a) Fertilization; b) Cleavage; c) Blastulation; d) Gastrulation; e) Formation of three germinal layers;
3. **Regeneration in chordates**.

UNIT – III **11**
1. **Chick Embryology:** (Extra-embryonic membranes) -
Structure and functions of- Amnion; Chorion; Yolk sac; Allantois
2. **Plancentation in mammals:** Classification on the basis of- Origin; Histology; Distribution of villi. Functions of Placenta.

UNIT – IV **12**
1. **Stem Cell:** a) Sources; b) Types – Embryonic, Haemopoitic, Adult, Nervous; c) Role of stem cells in human health.
2. Infertility in Humans-Causes, diagnosis and treatment.
3. **Assisted Reproduction Technologies- a**) In-Vitro Fertilization (IVF) b) Gamete Intra-Fallopian Transfer (GIFT); c) Intra cytoplasmic Sperm injection (ICSI); d)Zygote Intrafallopian transfer (ZIFT); e) Intrauterine Insemination (IUI)
4. **Parthenogenesis:** a) Natural; b) Artificial.

Outcome of the Course:
1. The student will be able to explain the basics processes of vertebrate embryonic development.
2. Ability to describe the various steps in vertebrate development.
3. Identify and explain about the different embryonic structures.
4. Describe the functions of different extra-embryonic structures.
5. Understanding of the Assisted Reproductive Technologies.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. First Year Syllabus w.e.f. June, 2019
Zoology
Semester –I &II

Paper: CCZP-I **Section –A&B**

Title of Paper: Practical Paper V: Biodiversity of Invertebrates and Chordates & Comparative Anatomy and Developmental Biology of Vertebrates(Based on P-I,II,III&IV)

Practicals : 30 **Credits: 04 (Marks: 100)**

Objectives:

1. To understand the anatomical organization of any species.
2. To identify and handle different body parts of invertebrates and vertebrates.
3. To understand and perform temporary and permanent mountings.
4. To identify and describe structure and functions of different bones.

1. Study of at least two museum specimens from Invertebrate Phyla. (Protozoa to Echinodermata and Hemichordata)**.**

2. Study of at least two museum specimens from Protochordata to Mammalia.

3. **Demonstration based on Models, Charts and Computer Aided Techniques:** i) Cockroach: Digestive system, Nervous system. ii) Scoliodon: Digestive system, Heart and ventral Aorta, Afferent arteries, Brain.

4. Key for Identification of poisonous and non-poisonous snakes.

5. **Permanent Mountings -** i) Mouth parts of Cockroach; ii) Trachea of Cockroach; iii) Salivary glands of Cockroach; iv) Nereis Parapodia; v) Mounting of different types Scales (From Locally Available Fishes): Cycloid, Ctenoid and Placoid.

6. **Osteology**: a) Disarticulated skeleton of fowl and rabbit/rat; b) Carapace and plastron of turtle /tortoise; c) Mammalian skulls: One herbivorous and one carnivorous animal. (Models / Charts); d) preparation of articulated complete skeleton of any locally available animal.

7. **Frog Embryology: Study of developmental stages, whole mounts and sections by permanent slides** – cleavage stages, blastula, gastrula, neurula, tail bud stage, tadpole, external and internal gill stages.

8. Study of the different types of placenta- histological sections using permanent slides or photomicrographs.

9. Study of placental development in humans by using ultrasound scan images.

10. Examination of gametes - frog/rat - sperm and ova using permanent slides or photomicrographs.

11. **Study of permanent slides of Chick Embryology:** 18 hrs.; 24 hrs.; 36 hrs.; 48 hrs.; 72 hrs. Stages

12. Demonstration of rat so as to expose its reproductive system.

13. An "**Animal Album**" containing photographs, cut outs, with appropriate write up about the different taxa. Different taxa/ topics may be given to different sets of students for this purpose.

14. **Short excursion/ study Tour is compulsory.**

15. **Submission:**

i) Practical record book duly signed by the teacher in charge/Head of the Department.
ii) Five permanent stained micro preparations.
iii) Animal Album ***or*** Articulated complete skeleton of any locally available animal
iv) Excursion report.

Outcomes:

1. Ability to understand the anatomical organization of organs and systems in representative species.
2. Ability to identify and describe structure and functions of different body parts of invertebrates and vertebrates.
3. Students would be able to prepare temporary and permanent mountings of biological material.
4. Students would be able to relate different bones and be able to articulate them to form an skeleton.
5. Students would make observations of organisms in their natural environment and document them.

(Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines.)

REFERENCE BOOKS BASED ON PAPER: CCZ-I& II (SECTION A (P-I & P-III) & SECTION B (P-II & P-IV)), PAPER: CCZZP-I (P-V)

1. Hyman L.H. 'The Invertebrates. Vol I-Protozoa through Ctenophora', McGraw Hill Co, New York.
2. Hyman, L.H. 'The Invertebrates Vol-II', McGraw Hill Co., New York.
3. Hyman, L.H. 'The Invertebrates. Vol-VIII', McGraw Hill Co., New York and London.
4. Barnes, R.D. 'Invertebrate Zoology, 3rd edition', W.B. Saunders Co., Philadelphia.
5. Barrington, E.J.W. 'Invertebrate Structure and Function', Thomas Nelson and Sons Ltd., London.
6. Sedgwick, A.A. 'Students Text Book of Zoology', Vol. I, II and III. Central Book Depot, Allahabad.
7. Parker, T.J., Haswell, W.A. 'Text Book of Zoology', Macmillan Co., London.
8. R.L. Kotpal, Modern text Book of Zoology vertebrates, Rastogi publications Meerut 10th revised edition.
9. E.L.Jordan and P.S.Verma, Chordate Zoology. S.Chand Publication
10. Boume, G.H., The Structure and functions of nervious tissue academic Press, New York.
11. Carter, G.S., Structure and habit in vertebrate evolution, Sedgwick and Jackson, London.
12. Eecles, J.C., The understanding of the brain, McGraw Hill CO., New York and London.
13. Kent, C.G., Comparative anatomy of vertebrates.
14. Malcom Jollie, Chordata morphology, East-West press Ltd., New Delhi.
15. Milton Hilderbrand, Analysis of vertebratestructure-IV, Ed. Johan Wily and Sons Ine., New York.
16. Smith, H.S., Evolution of chordara structure, Hold Rinehart and Winstoin Inc, New York.
17. Sedgwick, A.A., Students Text Book of Zoology, Vol.II
18. Torrey, T.W., Morphogenesis of erthates, John Wiley & Sons Inc., New York.
19. Walters, H.E. and Sayles, L.D., Ecology of vertebrates, Machillan and Co., New York.
20. Eolstenhoint, E.W. and Knight J. (Ed), Taste and smell in vertebrates, J & A, Churchill, London.
21. Romer, A.S., Vertebrate Body, IInd Edition, W.B. Saunders CO., Philadelphia.
22. Young, J.Z., Life of mammals, Oxford University press, London.
23. Colbert, E.H., Evolution of the vertebrates, Johan Wiley and Sons Inc., New York.
24. Balinsky, B.I. 'Introduction to Embryology', Saunders,Philadelphia
25. Beril, N.J. and Karp, G 'Developmental Biology'Tata McGraw Hill, New Delhi
26. Davidson, E.H. 'Gene activity during early development'Academic press, New York
27. Gilibert, S.F. 'Developmental Biology',Sinaver Associated IAC; Massachusetts
28. Muthukaruppam 'Animal Development' A laboratory Guide 1979 MKV Madurai.
29. Patten Foundation of Embryology
30. Suresh. C. Goel 'Principles of Animal Developmental Biology'Himalaya Publishing House,
31. Vasudeo Rao 'Developmental Biology – A Modern Synthesis'Oxford & IBH Pub. Co. Pvt Ltd.
32. Verma & Agarwal 'Chordate Embryology'.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. First Year Syllabus w.e.f. June, 2019
PRACTICAL QUESTION PAPER
Zoology
Semester –I &II

Paper: CCZP-I **Section –A&B**

Title of Paper: Practical Paper V: Biodiversity of Invertebrates and Chordates & Comparative Anatomy and Developmental Biology of Vertebrates (Based on P-I,II,III&IV)

Centre : **Date:**
Batch No.: **Session:**
Marks:80 **Time:04 Hrs.**

Q.1) Spotting: Identify, classify and describe as per instructions.(1-10 Spots) (Five Invertebrates and Five Vertebrates) 30

OR

a) Demonstrate **Cockroach** so as to explain its Digestive System ***or*** Nervous System and leave a labeled diagram.

b) Demonstrate **Scoliodon** so as to explain its Digestive System ***or*** Heart &Ventral Aorta ***or*** Afferent arteries ***or*** Brain and leave a labeled diagram.

Q.2) Prepare Permanent Stained Micro Preparation of material provided (Identify, draw labeled diagram and comment). 08
(Mounting of Mouth parts/Trachea/ Salivary glands of Cockroach/ Nereis Parapodia/ Scales of locally available fishes)

OR

To Identify poisonous and non-poisonous snakes by using Key.

Q.3) Spotting: Identify and describe as per instructions.(1-10 Spots) 30

(3- Bones (Fowl); 3 Bones (Rabbit/Rat); 2- Frog Embryological Slide; 2-Chick Embryological slide)

Q.4) Demonstrate rat so as to expose its reproductive system and leave a well labeled diagram. 08

Q.5) Viva-Voce 04

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = 20 Marks
Submission of Record book & Excursion Report=05 Marks;
Animal Album *or* Articulated complete skeleton & permanent slides =05 Marks;
Internal Test on Practical=10 Marks
2. Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines.

Name & Signature
Examiner – 1

Name & Signature
Examiner – 2

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. First Year Syllabus w.e.f. June, 2019
PRACTICAL PAPER
CONTINUOUS ASSESSMENT (CA)
Zoology
Semester –I & II

Paper: CCZP-I **Sections –A & B**
Title of Paper: Practical Paper V: Biodiversity of Invertebrates and Chordates & Comparative Anatomy and Developmental Biology of Vertebrates (Based on P-I,II,III&IV)
Centre : **Date:**
Marks:20

SEAT NUMBER: ……..

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	**Submission of Record book& Excursion Report**	**05**	
2.	**Submission of Animal Album *or* Articulated complete skeleton & permanent slides**	**05**	
3.	**Internal Test on Practicals**	**10**	
	Total Marks	**20**	

।। सा विद्या या विमुक्तये ।।
स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade
ACADEMIC (1-BOARD OF STUDIES) SECTION
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E-mail: bos.srtmun@gmail.com

संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७व्या मा. विद्या परिषद बैठकीतील विषय क्र.११/४७–२०२०**च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील द्वितीय वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०२०–२१ पासून लागू करण्यात येत आहेत.

1. B.Sc.-II Year-Biophysics
2. B.Sc.-II Year-Bioinformatics
3. B.Sc.-II Year-Biotechnology
4. B.Sc.-II Year-Biotechnology (Vocational)
5. B.Sc.-II Year-Food Science
6. B.Sc.-II Year-Botany
7. B.Sc.-II Year-Horticulture
8. B.Sc.-II Year-Agro Chemical Fertilizers
9. B.Sc.-II Year-Analytical Chemistry
10. B.Sc.-II Year-Biochemistry
11. B.Sc.-II Year-Chemistry
12. B.Sc.-II Year-Dyes & Drugs Chemistry
13. B.Sc.-II Year-Industrial Chemistry
14. B.C.A. (Bachelor of Computer Application)-II Year
15. B.I.T. (Bachelor of Information Technology)-II Year
16. B.Sc.-II Year-Computer Science
17. B.Sc.-II Year-Network Technology
18. B.Sc.-II Year-Computer Application (Optional)
19. B.Sc.-II Year-Computer Science (Optional)
20. B.Sc.-II Year-Information Technology (Optional)
21. B.Sc.-II Year-Software Engineering
22. B.Sc.-II Year-Dairy Science
23. B.Sc.-II Year-Electronics
24. B.Sc.-II Year-Environmental Science
25. B.Sc.-II Year-Fishery Science
26. B.Sc.-II Year-Geology
27. B.Sc.-II Year-Mathematics
28. B.Sc.-II Year-Microbiology
29. B.Sc.-II year Agricultural Microbiology
30. B.Sc.-II Year-Physics
31. B.Sc.-II Year Statistics
32. B.Sc.-II Year-Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–१/परिपत्रक/पदवी–सीबीसीएस अभ्यासक्रम/२०२०–२१/**३३३**
दिनांक : १५.०७.२०२०.

स्वाक्षरित/–
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University, Nanded

FACULTY OF SCIENCE & TECHNOLOGY

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

B.Sc. Second Year
Zoology
(Structure and Syllabus)

Choice Based Credit System (CBCS) Course Structure
Semester Pattern Syllabus
Effective from June, 2020

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure

Faculty of Science& Technology

B. Sc. Second Year (Semester III& Semester IV) Syllabus w.e.f. June, 2020

Semester Pattern; Subject: Zoology

Class/ Semester	Course Number		Name of the Course/ Paper	Instruction Hrs/Week	Total Periods/ Practicals	Marks for		Total Marks	Credits
						Internal (CA)	External (ESE)		
B.Sc. S.Y. Semester III	CCZ-III Physiology and Biochemistry	Section –A	PAPER VI: Physiology	03	45	10	40	50	Credit:02
		Section-B	PAPER VII: Biochemistry	03	45	10	40	50	Credit:02
	CCZP-II	[CCZ III (Section A & Section B)	Practical Paper- X: Physiology and Biochemistry (Practical based on P-VI & VII)	03	30	10	40	50	Credit:02
	SECZ-I		SEC-I Any one Skill to be chosen out of Two SECZ –I (A) : Haematology SECZ –I (B) : Urinology	03	45	25	25	50	Credit:02
B.Sc. S.Y. Semester IV	CCZ-IV Cell Biology, Genetics, Evolutionary Biology and Genetic Engineering	Section –A	PAPER VIII: Cell Biology and Genetics	03	45	10	40	50	Credit:02
		Section-B	PAPER IX: Evolutionary Biology & Genetic Engineering	03	45	10	40	50	Credit:02
	CCZP-II	[CCZ IV (Section A & Section B)	Practical Paper- XI: Cell Biology, Genetics, Evolutionary Biology and Genetic Engineering (Practical based on P-VIII & IX)	03	30	10	40	50	Credit:02
	SECZ-II		SEC-II Any one Skill to be chosen out of Two SECZ –II (C): Histotechnology SECZ –II (D): Apiculture	03	45	25	25	50	Credit:02
					Total Credit for Semester III & IV	**110**	**290**	**400**	**Credit:16**

CCZ: Core Course Zoology, **CCZP:** Core Course Zoology Practical, **CA:** Continuous Assessment;

ESE: End of Semester Examination, **SECZ:** Skill Enhancement Course Zoology

SECZ: **CA-25:** Seminar-15 & Test-10 **ESE-25:** Report Submission-10; Overall Skill Judgment-10 and Presentation-05

ESE for SECs SECZ-I & SECZ-II and Practical Papers CCZP-II & CCZP-III for both semesters III & IV respectively will be at the end of Academic Year in Annual Pattern.

Practical Internal Evaluation (Continuous Assessment CA)= 10 Marks

Submission of Record book & Excursion Report =05 Marks; Internal Test on Practicals=05 Marks

Swami Ramanand Teerth Marathwada University, Nanded

Choice Based Credit System (CBCS) Course Structure
Faculty of Science & Technology
B.Sc. Second Year (Semester III & Semester IV) Syllabus w.e.f. June, 2020
Semester Pattern; Subject: Zoology
NEWLY DESIGNED CBCS CURRICULA OF B.Sc. SECOND YEAR ZOOLOGY

Zoology deals with study of the **animals**. It embodies study of the structure, development, classification, habits, genetics, distribution and evolution of all animals. There are several specializations available to students pursuing this field. Among the several branches of zoology like cell biology, genetics, biochemistry, physiology, evolution; the branch of genetic engineering has grown into a huge area of research and application recently. All these fields of biology have contributed immensely to the progress of humankind.

The University has introduced the Choice Based Credit System (CBCS) in its curricula. Following is a briefing about CBCS as envisaged by the UGC.

CHOICE BASED CREDIT SYSTEM (CBCS):

The CBCS structure provides an opportunity for the students to choose from the prescribed core, elective/minor or skill based courses. The courses can be evaluated following the grading system, as prescribed by the Examination Cell of the University. A uniform grading system in the entire higher education in India will benefit the students to move across institutions to begin with. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

CORE COURSES:

The Core Courses (CC) offered to students of B.Sc. II Year Zoology are aimed at preparing the students for their study in the last year of graduation and their future career. The students are exposed to the varied fields of zoology as a foundation for them to take up higher studies. After completion of their graduation, the students would also be able to take up entrepreneurship related to biological sciences.

THE SALIENT FEATURES:

Physiology & Biochemistry and **Cell Biology, Genetics, Evolutionary Biology & Genetic Engineering** are the two papers offered to the B.Sc. II year students in III & IV semesters respectively. "Physiology & Biochemistry" attempts to deal with the mode of life and physiology of animals from different taxonomic groups and from different environmental conditions. As also, this paper deals with Understanding of the relationship, environmental and evolutionary, is the core of the first paper. Added to it is also an aspect on the developmental aspects of different species of animals. The second paper on "Cell Biology, Genetics, Evolutionary Biology & Genetic Engineering" deals with study of cells, genetics, evolution and genetic engineering. Understanding the latest developments in the fields of genetics and genetic engineering are an essential aspect of their future in academics in zoology.

UTILITY OF THE COURSE:

Learning of such areas of zoology as Physiology, Biochemistry, Cytology, Genetics, Evolution & Genetic Engineering equips students with necessary skills to pursue further study in a wide range of subjects. It also prepares the students for future research in any of the related fields. Such a broad coverage of topics in the second year also helps them widen their perspective of biological sciences. These courses would induce understanding of the subject so that the student could later take up specialized post-graduate courses and also pursue research in the relevant field. The students could also explore possibilities in developing themselves in such specialized fields to fit in the competitive environment.

Chairman,
Board of Studies in Zoology,
Faculty of Science & Technology,
Swami Ramanand Teerth
Marathwada University
Nanded- 431 606

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science & Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
Zoology
Semester- III

Paper: CCZ- III: Physiology and Biochemistry
Section- A **Title of Paper: Paper- VI:** Physiology
Periods: 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To understand the internal physical and chemical functions of animals and their parts.
2. To study the process of digestion, assimilation and excretion
3. To understand working of blood and circulatory system.
4. To understand the respiration and nervous coordination.
5. To study the endocrine function of Human reproductive organs.
6. To study the nature, function and classification of hormones.
7. To acquire knowledge on the structure of Pituitary, Thyroid, Adrenal, and Islets of Langerhans.

UNIT- I **11**

1. **Digestion:**
   Kinds of digestion-Intracellular and Extracellular Digestion.
   Physiology of digestion in the alimentary canal.
   Absorption of Carbohydrates, Proteins, Lipids.
2. **Vitamins:**
   Sources and deficiency diseases of Fat soluble and Water soluble vitamins.
3. **Respiration:**
   Kinds of Respiration- Direct and Indirect Respiration.
   Respiratory organs in man.
   Mechanism of Respiration in man.
   Transport of O_2 and CO_2

UNIT- II **11**

1. **Excretion:**
   Structure of Kidney, Structure of nephron.
   Mechanism of Urine formation (Ultra-filtration and tubular re-absorption).
   Counter-current Mechanism.

2. **Cardiovascular system:**
   Composition and functions of blood
   Types of heart in vertebrates: Neurogenic and Myogenic heart.
   Structure and working of Human Heart.
   Origin and conduction of the cardiac impulse, Cardiac cycle.
   E.C.G. and Blood Pressure

UNIT – III **11**

1. **Nerve Physiology:**
   Structure of generalized neuron

Types of neurons
Structure of synapse
Major Neurotransmitters- Acetyl choline, adrenaline & dopamine.
Conduction of nerve impulse

2. **Muscle Physiology:**
   Types of muscles- smooth muscles, skeletal muscles and cardiac muscles.
   Ultra structure of skeletal muscles

UNIT – IV **12**

1. **Reproduction:**
   Histological structure of human testes and ovaries.
   Physiology of male reproduction: hormonal control of spermatogenesis
   Physiology of female reproduction: hormonal control of oogenesis, menstrual cycle and pregnancy.

2. **Endocrine Glands:**
   Structure, functions and hormonal disorders of –
   Pituitary gland, Thyroid gland, Adrenal gland, Islet's of Langerhans (Pancreas)

Outcome of the Course:

On successful completion of the course, the students will be able to

1. Monitor their blood pressure and identify blood groups.
2. Understand function and types of heart & circulatory system.
3. Appreciate the basic function of kidney, main function of nerves.
4. Acquire knowledge on the nature and functions of hormones and learn the mechanism of hormone action.
5. Learn the structure and functions of Endocrine glands.
6. Understand the structure, development and function of reproductive organs in human.

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Zoology
Semester- III

Paper: CCZ- III: Physiology and Biochemistry
Section- B **Title of Paper: Paper- VII :** Biochemistry
Periods: 45 **Credits: 02 (Marks: 50)**

Objectives:
1. To provide students with a deep knowledge in biochemistry.
2. To study the function and structure of Biomolecules.
3. To understand the role of biomolecules in cell membrane
4. To establish correlation between metabolism of different types of biomolecules.

UNIT – I **12**

1. **Biomolecules**:
   Classification, Structure and Properties of Carbohydrates.
   Classification, Structure and Properties of Proteins.
   Classification, Structure and Properties of Lipids.

UNIT – II **11**

Electrochemical properties of Water, pH and Colligative properties
Enzymes: Nomenclature and Classification
Mechanism of Enzyme Action- E-S Complex Formation, Lock and Key Model, Induced Fit Theory.
Factors affecting Enzyme Activity- Temperature, pH, Concentration of Enzyme, Concentration of Substrate.

UNIT – III **11**

1. **Carbohydrate Metabolism:**
   Glycolysis (EMP Pathway)
   Glycogenesis, Glycogenolysis and Glyconeogenesis
   Citric Acid Cycle (Krebs Cycle)
   Pentose Phosphate Pathway (HMP shunt).

UNIT – IV **11**

1. **Lipid metabolism** :
   The ß-Oxidation (Beta Oxidation) Pathway
   Ketosis, Ketogenesis and Ketolysis.

2. **Protein metabolism:**
   Transamination, deamination and decarboxylation reactions of amino acids.
   Disposal of nitrogenous waste.
   Krebs-Henseleit Urea Cycle (Ornithine cycle).

Outcome of the Course:

On successful completion of the course, the students will be able to

1. Understand the chemical structure and functions of various biomolecules
2. Learn the signaling of biomolecules in cell membrane.
3. Understand the correlation between metabolism of different types of biomolecules.

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Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
Zoology
Semester- III

Paper: CCZP- II **Section- A & B**
Title of Paper: Practical Paper X: Physiology and Biochemistry (Practical based on P-VI & VII)
Practicals: 32 **Credits: 02 (Marks: 50)**

Objectives:

1. To improve the skills of students in microscopy, slide preparation, observations, drawings and laboratory techniques.
2. To acquaint the students with operations of the different laboratory equipment.
3. Ability to carry out routine clinical analysis of blood.
4. Understand the working principle and application of Sphygmo-manometer and Haemoglobinometer.
5. Learn clinical procedures for blood & urine analysis.

Section- A

1. Qualitative detection of digestive enzymes (Protease, Amylase and Lipase) in cockroach.
2. Detection of human salivary amylase.
3. Study of histological structure of following organs – Stomach, Intestine, Pancreas, Liver and Kidney.
4. Estimation of oxygen consumption in fish or any other suitable aquatic animal.
5. Qualitative detection of nitrogenous waste products (Ammonia, Urea, Uric acid) in bird's excreta and urine of Mammals.
6. Detection of Blood Groups- A, B, AB, O with Rh factor.
7. R.B.C. counting.
8. W.B.C. counting.
9. Estimation of Haemoglobin.
10. Measurement of B.P. by using B.P. apparatus (Demonstration only).
11. Preparation of Haematin crystals.
12. Structure of neurons (slide/chart); Types of nerve cells- Unipolar, Biopolar, Multipolar (Slides)
13. Structure of synapse
14. Temporary preparation of squamous epithelium, ciliated epithelium, skeletal muscle fiber and blood smear.
15. Study of histological structure of following organs- Testis, Ovary, Pituitary, Thyroid, Adrenal and islets of Langerhans.
16. Location of endocrine glands through charts or models.

Section- B

17. Qualitative detection of Carbohydrates.
18. Qualitative detection of Proteins
19. Qualitative detection of Lipids
20. Study of colligative properties of water.
21. Effect of different factors on Enzyme activity.
22. Estimation of an Enzyme – Amylase.
23. Estimation of an Enzyme – Protease.

24. Determination of Glycogen
25. Determination of Glucose.
26. Determination of Lipids.
27. Estimation of Protein by Lowry's method.
28. Estimation of free amino acids.
29. Estimation of Urea.
30. Estimation of Uric Acid
31. Routine examination of urine (physical examination of urine)
32. Chemical examination of urine.

Short excursion / study tour is compulsory.

Submission:

i) Practical record book duly signed by the teacher in charge/Head of the Department.

ii) Excursion report.

Outcomes:

1. Students able to improve the skills in microscopy, slide preparation, observations, drawings and laboratory techniques.
2. To acquaint the students with operations of the different laboratory equipment.
3. Ability to understand the detection of blood groups of humans.
4. Ability to Understand the estimation of blood cell counts, Haemoglobin content in humans.
5. To acquaint the students with operation of clinical procedures for blood & urine analysis.

(Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines.)

REFERENCE BOOKS BASED ON PAPER: CCZ-III (SECTION A (P-VI) & SECTION B (P-VI)), PAPER: CCZZP-II (P-X)

1. Tortora, G.J. and Derrickson, B.H. (2009). *Principles of Anatomy and Physiology*, XII Edition, John Wiley & Sons, Inc.
2. Widmaier, E.P., Raff, H. and Strang, K.T. (2008) *Vander's Human Physiology*, XI Edition., McGraw Hill
3. Guyton, A.C. and Hall, J.E. (2011). T*extbook of Medical Physiology*, XII Edition, Harcourt Asia Pvt. Ltd/ W.B. Saunders Company
4. Eckert R.- Animal Physiology (W. H. Freeman)
5. K. A. Goel and K. V. Shastri- A Textbook of Animal Physiology. Rastogi Pub.
6. Animal Physiology – A. Maria Kyttikan and N. Armugam (Saras Pub.)
7. Biochemistry – Arumugam et.al, (Saras Pub.)
8. Clinical Pathology and Haematology – Nanda Baheti (Kanhaiya Pub.)
9. Comparative Animal Physiology - C. Ladd Prosser.
10. Human Physiology - Vander A. J., Sherman J. H. and Luciano D. S. (Mc Graw Hill London)
11. Principles of Anatomy and Physiology – Tortora G. H. and Grabowasky S. R. (Harper Collins College Publication)
12. Text book of Animal Physiology – A. K. Berry (Emkay Publications, Delhi)
13. Principles of Animal Physiology – D. W. Wood
14. Physiology – Guyton and Hall
15. Berg, J. M., Tymoczko, J. L. and Stryer, L. (2006). *Biochemistry*. VI Edition. W.H Freeman and Co.
16. Nelson, D. L., Cox, M. M. and Lehninger, A.L. (2009). *Principles of Biochemistry*. IV Edition. W.H. Freeman and Co.
17. Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. (2009). *Harper's Illustrated Biochemistry*. XXVIII Edition. Lange Medical Books/Mc Graw3Hill.
18. Williams Text Book of Endocrinology – Tenth Edition, Saunders, 2003.
19. Endocrinology – Mac E. Hadley, Fifth Edition, Pearson Education, 2004
20. Textbook of Endocrinology – Griffin J.E., S.R. Ojeda, Oxford, New York, 1988.
21. Basic and Clinical Endocrinology – Greenspan, F.S., 3rd Ed., Appleton and Lange.
22. Basic Medical Endocrinology – Goodman, H.M., Raven, New York, 1988.
23. Hormones : From Molecules to Diseable, Bailiene, E.E. & P.A. Kelly, Herman, NewYork, 1991.
24. Bailey's Textbook of Histology – Williams and Wilkins (Baltmore and Scientific Book Agency, Culcutta Copenhaver W. M.).
25. Text book of Histology – Bloom W. and Fawcett D. W.
26. Histology of Mammals – Athavale M. V. and latey A. N.
27. Histology – Lippinocott, Han A. W.
28. Human Histology – Leslie Brainerd Arey (Khosla Pub. House, Delhi)
29. Tools of Biochemistry – T. G. Cooper.
30. Biochemistry – C. B. Power (Himalaya Pub.)
31. Outline of Biochemistry – Conn. E.E. and Stumpf P. V.
32. Biochemistry – Leninger A. L.

33. Biochemistry – Das.
34. Textbook of Biochemistry – Rao K. R.
35. Textbook of Biochemistry West E. S., Todd W. R. Mason H. S. and VanBruggen J. T.
36. Experimental Physiology – S. C. Rastogi (Wiley Eastern Ltd. London)
37. A Textbook of Practical Physiology – V.G. Ranade (P. V. G. Prakashan Pune.)
38. Manual of Practical Zoology – P. K. G. Nair and K. P. Achar (Himalaya Pub.)
39. Medical Laboratory Techniques – Ramni Sood (Jaypee Brothers medical Pub. Pvt. Ltd. New Delhi).

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science & Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
SRTM UNIVERSITY PRACTICAL EXAMINATION SUMMER / WINTER
QUESTION PAPER
Zoology
Semester- III

Paper: CCZP- II **Section- A & B**

Title of Paper: Practical Paper X: Physiology and Biochemistry (Practical based on P- VI & VII)

Centre:	**Date:**
Batch No.:	**Session:**
Marks: 40	**Time: 04 Hrs.**

Q.1 Qualitative detection of digestive enzymes (Protease, Amylase and Lipase) in Cockroach (**Any Two**)/ Detection of human salivary amylase./ Estimation of O2 consumption in fish or any suitable aquatic animal. **10**

OR

Detect any two Nitrogenous Waste Products from Sample Provided/
Detection of Blood Groups from given sample/ Counting of R.B.C./ W.B.C. in blood sample provided./
Estimate the Haemoglobin percentage in a given sample of blood/
Prepare Haematin Crystals from blood sample provided./
Measurement of Blood Pressure in Man.

Q.2 Identify and describe Nerve Cells and synapse from Slide Provided (Any Four)./ Identify and describe the histological slides of Endocrine glands (Any Four). **08**

OR

To locate, Identify and comment on endocrine glands in charts or models provided (Any Four)/ Temporary preparation of squamous/ ciliated epithelium / skeletal muscle fiber/ blood smear

Q.3 Qualitative detection of Carbohydrates/ Proteins/Lipids **or** Demonstrate any one colligative property of water **10**

OR

Effect of different factors on Enzyme activity/Estimation of an Enzyme – Amylase or Protease

Q.4 Determination of Glycogen/ Glucose **or** Determination of Lipids./ Estimation of Protein by Lowry's method/ Estimation of free amino acids / Urea/Uric Acid **08**

OR

Routine examination of urine (physical examination of urine)/ Chemical examination of urine

Q.5 Viva-Voce **04**

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = Total 10 Marks.
a) Submission of Record book & Submission of Report on a Field Visit = 05 Marks And
b) Internal Test on Practicals=05 Marks.
2. Demonstration of animal Dissections through Models, Charts and Computer Aided Techniques as per U.G.C Guidelines.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
PRACTICAL PAPER
CONTINUOUS ASSESSMENT (CA)
Zoology
Semester- III

Paper: CCZP- II **Sections- A & B**

Title of Paper Practical Paper X: Physiology and Biochemistry (Practical based on P-VI & VII)

Centre: **Date:**

Marks:10

SEAT NUMBER: ……..

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	Submission of Record book & Submission of Report on a Field Visit	05	
2.	Internal Test on Practicals	05	
	Total Marks	**10**	

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

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Faculty of Science& Technology

B. Sc. Second Year Syllabus w.e.f. June, 2020

Zoology

Semester- IV

Paper: CCZ-IV: Cell Biology, Genetics, Evolutionary Biology and Genetic Engineering

Section- A **Title of Paper: Paper- VIII:** Cell Biology and Genetics

Periods: 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To provide students with relevant knowledge, skills and values in contemporary cell biology.
2. To understand the structure and function of the cell as the fundamentals for understanding the functioning of all living organisms.
3. To acquire knowledge of prokaryotic, eukaryotic cells.
4. To make aware of different cell organelles, their structure and role in living organisms.
5. To acquire knowledge of Mendelian Genetics and its Extension.
6. To emphasize the central role of genes and their inheritance in the life of all organisms.

UNIT – I **11**

1. **Overview of Cells:**
   Structure of Prokaryotic and Eukaryotic cells. Microscopy for cell study.
2. **Cell Organelles:**
   Structure and functions of Cell Organelles- Plasma membrane, Endoplasmic reticulum, Golgi complex, Mitochondria, Ribosomes, Lysosomes and Nucleus.
3. Cell Cycle and its regulation

UNIT – II **11**

1. **Introduction to Genetics:**
   Mendel's work on transmission of traits, Genetic Variation.
2. **Mendelian Genetics and its Extension:**
   Mendel's law of inheritance- Law of Dominance, Law of Segregation, Law of independent Assortment.
   Interaction of genes and modifying genes- Complementary factor (9:7); Supplementary factor (9:3:4); Inhibitory factor (13:3); Duplicate genes (15:1); Lethal genes (1:2:1)

UNIT – III **11**

1. **Multiple Alleles and Genes:**
   i) Inheritance of ABO Blood groups in Man.
   ii) Rh factor and Erythroblastosis foetalis in man.
   iii) Polygenic characters- skin pigmentation in man.
2. **Linkage and Crossing over:**
   i) Linkage- Types and significance
   ii) Crossing over- a) Mechanism of crossing over, b) Factor affecting crossing over, c) Significance of crossing over.

3. **Mutation**
   i) Chromosomal Mutations: Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy.
   ii) Gene mutations: Induced versus Spontaneous mutations, Back versus Suppressor mutations.

UNIT – IV **12**

1. **Sex determination**
   i) Chromosomal methods of sex determination.
   ii) Bridge's ratio theory of genic balance.
2. **Sex linked inheritance**
   i) Sex linked inheritance in Drosophila.
   ii) Sex linked inheritance in man – colourblindness, haemophilia, Hypertrichosis
3. **Cytoplasmic Inheritance-** Mitochondrial inheritance (in human being)
4. **Human Genetics**
   i) Syndromes – *Turner, Klinefelter, Down, Cat-Cry, Patau syndrome*
   ii) Inborn errors of metabolism – Phenylketonuria (PKU), Alkaptonuria, Albinism.
   iii) Human pedigree analysis with symbols.

Outcome of the Course:

On successful completion of the course, the students will be able to

1. Understand the structure and function of the cell as the fundamentals for understanding the functioning of all living organisms.
2. Understand structures and various cellular functions associated with the macromolecules found in cells.
3. Acquire knowledge of Mendelian Genetics and its Extension.
4. Graduates will be able to explain and interpret various processes, phenomena, states and evolutionary tendencies at a biological system level.

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Zoology

Semester- IV

Paper: CCZ- IV: Cell Biology, Genetics, Evolutionary Biology and Genetic Engineering

Section- B **Title of Paper: Paper- IX:** Evolutionary Biology and Genetic Engineering

Periods: 45 **Credits: 02 (Marks: 50)**

Objectives:

1. To know the history and concept of evolution.
2. To understand the mechanisms and factors involving in evolution process
3. To acquire increased theoretical and practical knowledge of various processes of Molecular Genetics
4. To study the techniques for obtaining genetically modified organisms

UNIT – I **12**

1. **Introduction to theories of Evolution:**
   Lamarckism, Darwinism, Neo-Darwinism, Hugo De Vries theory.
2. **Evidences of organic Evolution**:
   i) **Morphological and Anatomical evidences**: Homologous, analogous and vestigial structures and their evolution.
   ii) **Physiological and Biochemical evidences**: examples.
   iii**) Embryological Evidences**: examples, Biogenetic Law.
   iv) **Palaeontological Evidences**: Distribution of fossils in rocks, dating of rocks and fossils, conclusion drawn from fossil records (brief account).
   v) **Taxonomical evidences**: evolution based principles of classification, phylogenetic tree.
3. **Processes of Evolutionary Change:**
   Organic variations; Isolating Mechanisms; Natural selection (Example: Industrial melanism); Types of natural selection (Directional, Stabilizing, Disruptive), Artificial selection.

UNIT – II **11**

1. **Species Concept:**
Biological species concept (Advantages and Limitations); Modes of speciation (Allopatric, Sympatric).

2. **Extinction:**
Mass extinctions in history of earth, Mass extinction- Causes, Role of extinction in evolution.

3. **Adaptive radiation**- Causes and significance, Adaptive radiation in Darwin's finches

4. **Hardy-Weinberg Principle-** Hardy-Weinberg Equilibrium, Factors that upset Hardy-Weinberg Equilibrium

UNIT – III **11**

1. **Nature and functions of genetic materials**.
   i) DNA – Structure, types and functions.
   ii) RNA – Structure, types and functions.
   iii) Genetic code

2. **Introduction to Genetic Engineering**
3. **Recombinant DNA Technology**
   i) Tools: - A) Enzymes: - a) Lysing b) Ligases c) Nucleases (Exonucleases, Endonucleases, Restriction Endonucleases) d) Synthetases (DNA polymerase, Reverse transcriptase)
   B) Vectors: - Cloning vectors (Plasmid -psBR322, Bacteriophage-Lambda phage, Virus-SV40, Cosmid vectors)

UNIT – IV **11**

1. **Techniques:**
   i) Gel-Electrophoresis
   ii) PCR (Polymerase Chain Reaction)
   iii) Southern, Northern and Western Blotting**.**
2. Construction of rDNA
3. c-DNA libraries and Genomic libraries
4. Transgenesis and Transgenic animals (Transgenic cattle, sheep, pig and fish)
5. Cloning and cloned animals (Dolly sheep)
6. DNA fingerprinting.

Outcome of the Course:

On successful completion of the course, the students will be able to

1. Understand the theories and concepts of evolution.
2. Learn the process of evolution in animals.
3. Understand the patterns of evolutionary changes in animals.
4. Understand the organization and functions of genetic material in the living world.
5. Understand the Recombinant DNA Technology.

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Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
Zoology
Semester –IV

Paper: CCZP- III **Section –A & B**
Title of Paper: Practical Paper XI: Cell Biology, Genetics, Evolutionary Biology and Genetic Engineering (Practical based on P-VIII & IX)
Practicals: 32 **Credits: 02 (Marks: 50)**

Objectives:

1. To provide basic practical skills and experience in using laboratory techniques in experimentation.
2. To understand how to prepare mitotic chromosomes.
3. To Demonstrate the Mendalian traits in Man.
4. To be able to mounting of salivary glands of Drosophila larvae
5. To understand the outline of Genetic Engineering
6. To Learn the role of Genetic Engineering in biology

Section- A

1. Staining of eukaryotic cells: Temporary mount of buccal epithelial cells to study their structure.
2. Identification of cell organelles (based on chart / photo-micrographs)
3. Operation and maintenance of compound microscope.
4. Preparation of temporary stained squash of onion root tip to study various stages of mitosis
5. Study of various stages of meiosis.
6. Problems based on Monohybrid & Dihybrid cross.
7. Problems based on interaction of genes (Complementary, Supplementary, Inhibitory Duplicate factors, Lethal genes).
8. Problems based on blood group inheritance & sex linked inheritance (haemophilia and colour blindness) in man.
9. Culture of Drosophila.
10. Observation of genetic characters likes eyes and wings in drosophila.
11. Preparation of temporary slides of salivary gland chromosomes from drosophila/chironomous larva.
12. Study of permanent slide of sickle cell anaemia.
13. Study of normal male and female human karyotype (use photographs or prints) and abnormal (chromosomal abnormalities) human karyotypes.
14. Study of genetic syndromes:
    a) Down's syndrome
    b) Klinfelter's syndrome
    c) Turner's syndrome.
15. Human pedigree analysis- various symbols used.
16. Study of human genetic traits (PTC (phenyl thio carbamate) tasters, ear lobes)

Section- B

Study of evidences by using photograph/charts and models-

17. Study of homologous organs (limbs of 5 different groups of vertebrates).
18. Study of analogous organs (wings of bird, insect and bat).
19. Study of connecting links (*Archeopteryx* and *Peripatus*).
20. Study of any four vestigial organs in humans.
21. Study of adaptive radiation in feet of birds.
22. Study of adaptive radiation in mouth parts of insects.
23. **Charts/Diagrams/Cut-outs:**
    a) Study of evolution of man based on three hominid fossils.
    b) Phylogeny of horse limbs and teeth of horse ancestors.
    c) Darwin's Finches- beaks of different species.
24. Calculation of frequencies of recessive and dominant gene in a population by using Hardy Weinberg Principle.
25. Calculation of heterozygotes and homozygotes in population by using Hardy Weinberg's principle.
26. Estimation of DNA by Diphenyl amine (DPA method).
27. Study of the principle and applications of Electrophoresis apparatus
28. PCR- Principle and applications.
29. ELISA- Demonstration.
30. Study of transgenic animals.
31. Study of the principle and applications of DNA finger printing.
32. Sequence Similarity Search using BLAST- Demonstration

Visit to Natural History Museum and submission of report.

Submission:

i) Practical record book duly signed by the teacher in charge/Head of the Department.
ii) Excursion report.

Outcomes:

1. Students would be able to prepare temporary squash preparations of onion root tips for mitosis.
2. Demonstrate the genetic traits in Man.
3. Ability to culture Drosophila flies in the laboratory.
4. Ability for mounting of salivary glands of Drosophila larvae.
5. Students are able to understand the outline of Genetic Engineering.
6. Ability to Learn the role of Genetic Engineering in biology.

(Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines.)

REFERENCE BOOKS BASED ON PAPER: CCZ-IV (SECTION A (P-VIII) & SECTION B (P-IX)), PAPER: CCZZP-III (P-XI)

1. Gardner, E.J., Simmons, M.J., Snustad, D.P. (2008). *Principles of Genetics*. VIII Edition. Wiley India.
2. Snustad, D.P., Simmons, M.J. (2009). *Principles of Genetics*. V Edition. John Wiley and Sons Inc.
3. Klug, W.S., Cummings, M.R., Spencer, C.A. (2012). *Concepts of Genetics*. X Edition. Benjamin Cummings.
4. Russell, P. J. (2009). *Genetics- A Molecular Approach.* III Edition. Benjamin Cummings.
5. Griffiths, A.J.F., Wessler, S.R., Lewontin, R.C. and Carroll, S.B. *Introduction to Genetic Analysis*. IX Edition. W. H. Freeman and Co.
6. Ridley, M. (2004). *Evolution*. III Edition. Blackwell Publishing
7. Barton, N. H., Briggs, D. E. G., Eisen, J. A., Goldstein, D. B. and Patel, N. H. (2007). *Evolution*. Cold Spring, Harbour Laboratory Press.
8. Hall, B. K. and Hallgrimsson, B. (2008). *Evolution*. IV Edition. Jones and Bartlett Publishers
9. Campbell, N. A. and Reece J. B. (2011). *Biology*. IX Edition, Pearson, Benjamin, Cummings.
10. Douglas, J. Futuyma (1997). *Evolutionary Biology*. Sinauer Associates.
11. Dr.S.S.Nanware, Dr.D.B.Bhure & M.U.Barshe (2015). Text Book-Cell Biology. Aruna Prakashan Latur, M.S. ISBN: 978-93-5240-012-6,Publication12th June, 2015
12. Dr.D.B.Bhure, Dr.S.S.Nanware & M.U.Barshe (2016). Text Book of Fundamental Genetics. Aruna Prakashan Latur, M.S. ISBN: 978-93-5240-035-5,Publication16th June, 2016
13. Gupta, P. K (2002) *Cell and Molecular Biology*, (2ed), , Rastogi Publications., Meerut
14. Gardner, J.E., Simmons, J.M and Snustad D.P..(2007). *Principles of Genetics* (8th edn.).John Wiley and Sons, India.
15. Sarada K & Mathew Joseph (Editors) (1999) *Cell Biology, Genetics and Biotechnology*,
16. Thomas A. P (Editor), (2012). *Genetics and Biotechnology- The Fundamentals. Green Leaf Publications*, TIES, Kottayam.
17. Heinemann, 1993, Techniques for Engineering Genes, Butterworth. Open Universiteit Nederland.
18. J.D. Watson, M. Gilman, J. Witkowski & M. Zoller, (1992). Recombinant DNA Technology, (2nd Edn.). Scientific Americans books, Newyork.
19. Barton, N. H., Briggs, D. E. G., Eisen, J. A., Goldstein, D. B. and Patel, N. H. (2007). Evolution.- Cold Spring, Harbour Laboratory Press
20. Bendall, D. S. (ed.) (1983). Evolution from Molecules to Man. Cambridge University Press, U.K
21. Chattopadhyay Sajib. (2002). Life Origin, Evolution and Adaptation.Books and Allied (P) Ltd. Kolkata, India.
22. Douglas, J. F (1997). Evolutionary Biology.Sinauer Associates.
23. Hall, B. K. and Hallgrimsson, B. (2008), Evolution. 4th Edition; Jones and Bartlett Publishers.
24. Verma P.S. and Agarwal V.K. (1974). Cell Biology, Genetics, Molecular Biology, Evolution and Ecology. S. Chand Publications, Delhi. Multicolour Reprint 2005

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
SRTM UNIVERSITY PRACTICAL EXAMINATION SUMMER / WINTER
QUESTION PAPER
Zoology
Semester –IV

Paper: CCZP-III **Section –A&B**

Title of Paper: Practical Paper XI: Cell Biology, Genetics, Evolutionary Biology and Genetic Engineering (Practical based on P-VIII & IX)

Centre: **Date:**
Batch No.: **Session:**
Marks: 40 **Time: 04 Hrs.**

Q.1 Temporary mount of buccal epithelial cells to study their structure / Identify any two cell organelles and comment on their structure and functions / Demonstrate operation of compound microscope and comment on it / Preparation of temporary stained squash of onion root tip to study stages of mitosis / Study of various stages of meiosis. **10**

OR

Solve One problem based on Monohybrid Cross & One problem based on Dihybrid Cross / Solve any two problems on Interaction of Genes.
(Complementary, Supplementary, Inhibitory Factors, Duplicate genes, Lethal genes)

Q.2 Solve Problems based on blood group inheritance in man/ Sex-Linked Inheritance **08**
Identification of Human Syndromes (any two)/ Preparation of Temporary Mount of Salivary Gland Chromosomes of Drosophila / Chironomous Larvae

OR

PTC tasting test in a group of individuals and reporting of results

OR

Identify and Comment on as per instructions. a) Sickle cell anemia –slide/photograph/ charts.
b) Humans pedigree analysis (Any Four symbols)

Q.3 Identify and comment on as per the instructions (Any Four) {homologous organs, analogous organs, connecting links, vestigial organs, adaptive radiation} **10**

OR

Problems (**Any Two**) based on Hardy- Weinberg Principle.

Q.4 Estimation of DNA by Diphenyl amine (DPA method)./ Study of the principle and applications of Electrophoresis apparatus/PCR/DNA Finger printing/ ELISA-Demonstration/ Sequence Similarity Search using BLAST –Demonstration/ Study of transgenic animals **08**

Q.5 Viva-Voce **04**

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = Total 10 Marks.
a) Submission of Record book & Submission of Report on a Field Visit = 05 Marks And
b) Internal Test on Practicals=05 Marks.
2. Demonstration of animal Dissections through Models, Charts and Computer Aided Techniques as per U.G.C Guidelines.

Swami Ramanand Teerth Marathwada University, Nanded
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
PRACTICAL PAPER
CONTINUOUS ASSESSMENT (CA)
Zoology
Semester- IV

Paper: CCZP- III **Sections- A & B**

Practical Paper XI: Cell Biology, Genetics, Evolutionary Biology and Genetic Engineering (Practical based on P- VIII & IX)

Centre: **Date:**

Marks: 10

SEAT NUMBER: ……..

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	Submission of Record book & Submission of Report on a Field Visit	05	
2.	Internal Test on Practicals	05	
	Total Marks	**10**	

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
Zoology
B.Sc. Second Year, Semester – III

Skill Enhancement Course (SEC)

SECZ –I (A): HAEMATOLOGY

Periods: 45 **Credits:02 (Marks:50)**

Objectives

1. To understand the composition and functions of human blood.
2. To appreciate different types of compounds used in processing and storage of blood.
3. To learn different techniques used in study of blood cells.
4. To develop skill of collecting, preserving and analyzing blood samples.
5. To learn about changes in blood composition in disease.

UNIT – I

1. Introduction- Definition, Components, Cells – Structure and Functions of cells, Lymph. Collection of Blood- Collection of capillary blood by skin puncture, Collection of blood by Venipuncture, Collection of arterial blood, Criteria for sample collection.

- Practical- Collection of blood by Venipuncture and arterial blood. Determination of blood group of provided blood sample.

UNIT – II

2. Anticoagulants - Definition, Action of EDTA, Oxalates, double oxalates, fluorides, acid citrate, detxtrose-trisodium citrate, heparin - Effect of anticoagulants on blood cell morphology.
3. Haemoglobin - Normal structure and various haemoglobin, Determination of haemoglobin by various methods - Anaemia.

- Practical - Determination of haemoglobin from given blood sample, Clotting and bleeding time of blood.

UNIT – III

4. Study of Blood Cell Count - Total WBC Count, Total RBC Count, Platelets Count, Absolute Eosinophil Count, Reticulocyte Count.

- Practical – Determination of Total Count of RBC, WBC.

UNIT – IV

5. Study of Blood Smear for differential WBC Count - Preparation and Staining of smears, Counting Methods, Morphology of White cells, Types of White Cells, Abnormalities in morphology of blood cells and related diseases.

- Practical – Determination of differential WBC Count by blood Smear.

Outcomes

1. Ability to explain composition and functions of blood.
2. Knowledge about compounds used in processing and storage of blood.

3. Skill to be able to use different techniques used in study of blood cells.
4. Ability to collect, preserve and analyze blood samples.
5. Knowledge of changes in blood composition in disease.

REFERENCE BOOKS:

1. Medical Laboratory Technology - Ramnik Sood
2. Medical Lab Technology Vol. I, II & III – Kanai Mukherjee
3. Hand Book of Medical Technology - Mrs. Chitra
4. Medical Laboratory Technology – A. Ananthanarayan
5. Manual for Laboratory Technician of Primary Health by Minister of Health
6. Human Physiology Vol. I & II – C. C. Chatterjee

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
Zoology
B.Sc. Second Year, Semester – III

Skill Enhancement Course (SEC)

SECZ –I (B): URINOLOGY

Periods: 45 **Credits: 02 (Marks:50)**

Objectives

1. Understanding structure and function of human urinary system.
2. Learning about formation and composition of urine.
3. Appreciate importance of urine composition in detecting disease.
4. Instill skill to perform basic urinary system function tests.
5. Develop ability to handle and process urine samples.

UNIT - I

1. Definition, Structure and Functions of Urinary System, Physiology of Mechanism of Urine formation.

- Practical – Study of principle and procedure of renal function test in human.

UNIT - II

2. Constituents and composition of Urine
   i) Normal constituents and abnormal constituents of Urine- i) Qualitative tests for sugar, albumin, ketone bodies, bile salts and bile pigments.

- Practical – Study of normal and abnormal constituents of Urine.

UNIT - III

3. Renal Function Tests
   i. Definition, importance of tests like urea, creatinine, uric acid, proteins
   ii. Importance of Dialysis

- Practical- Biochemical Qualitative and Quantitative tests for urine from normal and diabetic persons.

UNIT - IV

4. Collection and preservation of Urine Sample
   i. Physical and Chemical Examinations of abnormal constituents.
   ii. Microscopic Examination of urine
   iii. Preparation of Urine Report
   iv. Urinometer.

- Practical- Study of Microscopic Examination of urine.

Outcomes

1. Ability to describe function of human urinary system.
2. Skill to collect, preserve, process and store urine samples.

3. Skill to perform physical, chemical and microscopic examination of urine samples.
4. Ability to document findings of urine examination/analysis.

REFERENCE BOOKS

7. Medical Laboratory Technology - Ramnik Sood
8. Medical Lab Technology Vol. I, II & III – Kanai Mukherjee
9. Hand Book of Medical Technology- Mrs. Chitra
10. Medical Laboratory Technology – A. Ananthanarayan
11. Manual for Laboratory Techniian of Primary Health by Minister of Health
12. Human Physiology Vol. I & II – C. C. Chatterjee

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS) Course Structure

Faculty of Science & Technology

B. Sc. Second Year Syllabus w.e.f. June, 2020

Zoology

B.Sc. Second Year, Semester – IV

Skill Enhancement Course (SEC)

SECZ –II (C): HISTO-TECHNOLOGY

Periods: 45 **Credits: 02 (Marks: 50)**

Objectives

1. Appreciation of structure of cells in various types of tissues.
2. Learning the methods in storage and histochemical processing of tissue samples.
3. Acquire the ability and skill to prepare histological slides of tissue samples.
4. Learn about tools used in histological study of tissues.

UNIT - I

1. Introduction – Definition of Histo-technology.
2. Methods of examination of tissues and cells, Collection and labeling of specimens, Methods of preparation and examination of tissues (fresh and fixed tissue).

- Practical – Study of different types of microtomes.

UNIT- II

3. Fixation of tissue - Definition, Criteria for an ideal fixative, types (Simple and Compound), Properties of Simple and Compounds fixatives (Microanatomical, cytological and histochemical)

- Practical – Isolation and collection of tissue, fixing and block preparation.

UNIT- III

4. Tissue processing - Manual and automatic tissue processing, Different embedding media, Steps of tissue processing (Dehydration, Clearing, Impregnation).
5. Embedding- Methods of Embedding, Embedding medium, names of media and moulds, Automatic Tissue Processes (Structure and Working, Advantages and Disadvantages).

- Practical – Tissue processing of prepared blocks.

UNIT- IV

6. Section Cutting - Types of Microtome, Rotary Microtome -Parts and their functions, Microtome Knives- Types, Care and Maintenance Techniques of sharpening; Technique of Section Cutting, Preparation of Adhesive Mixture, Mounting.
7. Staining - Definition and Significance of Staining, Stain and Staining Types, Theory of Staining, Methods of Staining.

- Practical – Section Cutting, fixing, alcohol grading, staining and preparation of permanent slide.

Outcomes

1. Ability to identify different types of tissues and distinguish between different components of cells.
2. Skill related to fixation of tissue samples and microtechnic processing of tissues.
3. Ability to identify, handle and catalogue slides of different tissues.
4. Students' skill in operating and maintaining different types of microtomes.

REFERENCE BOOKS:

1. Histochemical Techniques – J. D. Bancroft.
2. Handbook of Histopathological and Histochemical Techniques – C. F. A. Culling.
3. Histological and Histochemical Methods 4th Ed. – John Kiernan.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science & Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
Zoology
B.Sc. Second Year, Semester – IV

Skill Enhancement Course (SEC)

SECZ- II (D): APICULTURE

Periods: 45 **Credits: 02 (Marks: 50)**

Objectives

1. To learn about life history and social structure of honey bee species.
2. To study bee rearing and farming methods and the equipment involved.
3. To learn about apiculture benefits and different byproducts & their economic scope.
4. To study the different bee diseases and predators and their control measures.

UNIT- I: BIOLOGY OF BEES

1. History, Classification and Biology of Honeybees.
2. Social Organization of Honey bees.

- Practical – Study of different species of locally available honey bees.

UNIT- II: REARING OF HONEY BEES

3. Artificial Bee Rearing (Apiary), Bee hives- Newton and Langstroth, Bee Pasturage, Selection of Bee Species for apiculture, Bee keeping equipment, Methods of extraction of honey (Indigenous and Modern).

- Practical- Visit to the Apiculture centers, Submission of report about different equipment and procedures used in keeping of artificial bee hives.

UNIT- III: DISEASES AND ENEMIES

4. Bee diseases and enemies, Control and preventive measures.

- Practical- Study of different parasites and predators of honey bees.

UNIT- IV: ECONOMY OF BEES AND ENTREPRENEURSHIP

5. Products of Apiculture industry and its uses (Honey, Bee wax, Propolis, Pollen etc.).
6. Bee keeping industry- Recent efforts, Modern methods in employing artificial believes for Cross pollination in horticulture gardens.

- Practical- Collection of natural bee hives, honey etc.
- Practical- Extraction of bees wax from bee hive.

Outcomes

1. Ability to understand and describe the life stages and social organization of honey bee species.
2. Ability to correctly explain and perform bee rearing, farming and harvesting practices.
3. Appreciate the economic importance of derivative benefits and byproducts of apiculture.
4. To identify and take remedial measures against the different bee diseases and predators.

REFERENCE BOOKS:

1. Apiculture - Prost, P. J. (1962), Oxford and IBH, New Delhi.
2. Apiculture - Bisht D. S., ICAR Publications.
3. Bee Keeping in India - Indian Council of Agricultural Research, New Delhi.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)
CONTINUOUS ASSESSMENT (CA)
Zoology
Semester- III
SECZ- I (A): HAEMATOLOGY
Or
SECZ- I (B): URINOLOGY

Centre: **Date:**

Marks: 25

SEAT NUMBER: ……..

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	Seminar Presentation	15	
2.	Test	10	
	Total Marks	**25**	

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)
CONTINUOUS ASSESSMENT (CA)
Zoology
Semester- IV
SECZ- II (C): HISTOTECHNOLOGY
Or
SECZ- II (D): APICULTURE

Centre: **Date:**

Marks: 25

SEAT NUMBER: ……..

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1.	Seminar Presentation	15	
2.	Test	10	
	Total Marks	**25**	

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)

END OF SEMESTER EXAMINATION (ESE)

Zoology
Semester- III
SECZ- I (A): HAEMATOLOGY
Or
SECZ- I (B): URINOLOGY

CENTRE: **DATE:**

Maximum Marks: 25

SEAT NUMBER: ……..

Sr. No.	End of Semester Examination (ESE)	Maximum Marks	Marks Obtained
1.	Skill Work Report Submission	10	
2.	Overall Skill Judgment	10	
3.	Skill Work Presentation	05	
	Total Marks	**25**	

Name & Signature
Examiner – 1

Name & Signature
Examiner – 2

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS) Course Structure
Faculty of Science& Technology
B. Sc. Second Year Syllabus w.e.f. June, 2020
SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)

END OF SEMESTER EXAMINATION (ESE)

Zoology
Semester- IV
SECZ- II (C): HISTOTECHNOLOGY
Or
SECZ- II (D): APICULTURE

CENTRE: **DATE:**

Maximum Marks: 25

SEAT NUMBER: ……..

Sr. No.	End of Semester Examination (ESE)	Maximum Marks	Marks Obtained
1.	Skill Work Report Submission	10	
2.	Overall Skill Judgment	10	
3.	Skill Work Presentation	05	
	Total Marks	**25**	

Name & Signature
Examiner – 1

Name & Signature
Examiner – 2