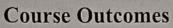
Dnyansadhana Shikshan Prasarak Mandal, Nivade Sanchalit,

# M.H.Shinde Mahavidyalya, Tisangi





| De | part | men | t of | History   |
|----|------|-----|------|---|
|    |      |     |      | OF REAL PROPERTY AND ADDRESS OF THE PARTY AND |

| Class | Course   | Semester | Course Outcomes   |
|-------|--|----------|---|
| B.AI  | Rise of Maratha<br>power(1600-<br>1707)                                | Ī        | After studying the course the student will be able to  1. To understand the contribution of chhatrapati Shivaji Maharaj in making of Maratha State.  2. To Understand the historical sources of Maratha History.  3. To understand the role of common people in Maratha independence war.   |
|       | Polity, Society<br>and economy<br>under the<br>Marathas (600-<br>1707) | II       | After studying the course the student will be able to  1. To understand the administration of Marathas.  2 To study economic aspects of Marathas  3. To study the socio-religious aspects of the Marathas.  4. To understand the contribution of ShivajiMaharaj in Agricultural & Management.   |
| B.AII | History of Modern Maharashtra -III (1900 to 1960)                      | III      | After studying the course the student will be able to  1. Understand the beginnings and growth of nationalist consciousness in Maharashtra  2. Explain the contribution of Maharashtra to the national movement  3. Give an account of various movements of the peasants, workers, women and backward classes  4. Know the background and events which led to the formation of separate state of Maharashtra. |
|       | History of<br>Modern<br>Maharashtra –V<br>(1900 to 2000)               | IV       | After completion of the course, the student will  1. Acquaint himself with the contribution of eminent leaders of Maharashtra  2. Know about the economic transformation of Maharashtra  3. Understand the salient features of changes in society  4. Explain the growth of education.  |
|       | History of India-  | III      | After studying this course, the student will be able to   |

|       | History of Freedom Struggle  –VI (1858-1947) | IV | 1. Acquaint himself with significant events leading to establishment of the rule of East India Company 2. Know the colonial policy adopted by the company to consolidate its rule in India 3. Understand the structural changes initiated by colonial rule in Indian Economy. 4. Explain the various revolts against rule of the East India Company.  After completion of this course, the student will be able to 1. Understand the events which lead to the growth of nationalism in India 2. Acquaint himself with major events of the freedom struggle under the leadership of Mahatma Gandhi 3. Explain the contribution of Revolutionaries, Left Movement and Indian National Army |
|-------|--|----|--|
|       |  | N. | National Army  4. Know the concept of Communalism and the causes and effects of the partition of India   |
| B.AII | Social Reforms in India–I                    | Ш  | After completion of the course, the student will be able to  1. Understand the salient features of prominent socio-religious reform movements  2. Explain the thought and work of Mahatma Phule for radical transformation of Indian society  3. Know the measures taken by Rajashri Shah Maharaj for emancipation of lower classes and women  4. Understand the thoughts of Ambedkar on the annihilation of the caste system and untouchability in India  5. Know how the Indian constitution embodies the values of social justice and Equality.   |
|       | Social Reforms in<br>Maharashtra – II        | IV | After studying the course, the student will be able to  1. Know about the beginnings of social reforms in Maharashtra by the Paramhansa Mandali and PrarthanaSamaj.  2. Understand the contribution of women reformers  3. Explain the contribution of Social reformers the fight for social justice   |

|        |   |    | 4. Explain the role played by educational reformation in transformation of society.  |
|--------|---|----|--|
| B.AIII | Early India-V-II ((from beginning to 4th c. BC)       | V  | After studying the course the student will be able to  1) Understand the transition of humans in India from Hunters to Farmers  2) Explain the transition from Early to Later Vedic period.  3) Clarify the causes for the first and second urbanizations  4) Give an account of the teachings of Gautama Buddha and VardhamanaMahavira  5) Describe the rise and growth of the Mauryan Empire  6) Explain the salient features of Ashoka's Dhamma   |
|        | Ancient India-XII<br>(From 4th c. BC<br>to 7th c. AD) | VI | After studying the course the student will be able to  1) Know the political ,economic and religious developments which took place in early historic India  2) Explain the role played by Major Satavahana, Kushana, Gupta and Vakataka Kings  3) Give an account of the developments in the Post-Gupta period  4) Have an informed opinion about the society and culture of Ancient India   |
| B.AIII | History of<br>Medieval India-<br>VIII<br>(1206-1526)  | V  | After studying the course the student will be able to  1) Describe the different types of historical sources available for writing the history of medieval India  2) Explain the contributions of medieval rulers like AllaudinKhilji, Muhammad-bin-Tuqhlaq, Krishnadevraya, and Mahmud Gavan  3) Give an account of the administration and economy of the Delhi sultanate and Vijayanagar Empire  4) Elucidate the significant developments which took place in religion, society and culture |
|        | History of<br>Medieval India<br>XIII<br>(1526-1707)   | VI | After studying the course the student will be able to  1) Know about the various sources for writing Medieval Indian history  2) Explain the role of rulers like Babar, Akbar,   |

| B.AIII | A  |    | Chandbibi and Ibrahim Adilshah II  3) Gain knowledge about the administrative revenue system  4) Describe the condition of Industry and trade  5) Explain important developments in religion society and culture  | - A |
|--------|--|----|---|-----|
| B.AIII | Age of Revolutions - IX  | V  | After studying the course the student will be able to  1) Explain the causes and consequences of the Reformation  2) Give an account of the role played by Martin Luther  3) Explain the salient features of the Industrial revolution  4) Given an account of the American revolution  5) Explain the causes, effects and major events of French Revolution  6) Explain the role of major leaders of the French Revolution   |     |
|        | Making of the Modern World-XIV (16 <sup>th</sup> & 19 <sup>th</sup> century) | VI | After studding this course the Student will be able to:  1) 1) Know the causes and consequences of the Glorious revolution in England 2) Explain the concept of Nationalism and account for its rise and spread. 3) Describe the unification of Italy and Germany. 4) Give an account of the rise, growth and impact of Imperialism 5) Explain the significance of the Partition of Africa 6) Know the life and thoughts of important leaders like Metternich, Karl Marx and Abraham Lincoln. |     |
| B.AIII | Political History<br>of the Marathas -<br>X                                  | V  | After studying the course the student will be able to  1) Describe the political conditions of the Marathas upto the year 1740  2) Explain the role of BalajiBajirao.  3) Explain the causes and effects of the Battle of Panipat.  4) Understand the political condition of the Marathas after 1761.  5) Critically analyze the causes for the decline of Maratha power.   |     |

|        | Polity, Economy<br>and Society under<br>the Marathas-XV | VI | After studying the course the student will be able to  1) Know the various sources for writing the history of the Marathas  2) Explain the significant developments in the polity of the Marathas  3) Describe the economic conditions  4) Explain the social conditions.         |
|--------|---|----|---|
| B.AIII | History: Its<br>Theory -XI                              | V  | After studying the course the student will be able to  1) Understand the definition and scope of the subject of History  2) Know the process of acquiring historical data  3) Explain the process of presenting and writing history  4) Understand the methods of writing history |
|        | Methods and<br>Applications of<br>History-XVI           | VI | After studying the course the student will be able to  1) Understand the nature of archival sources 2) Gain conceptual clarity about recent trends in history. 3) Know about the application of history in museums. 4) Explain the concept and scope of heritage tourism.         |

## Department of Economics

| Class  | Name of the Papers   | Outcome  |
|--------|----------------------|--|
| B.A.I. | Indian Economy       | 1. This paper intends to acquaint the students with various    |
|        |                      | dimensions of challenges, confronting the Indian Economy. It   |
|        |                      | endeavors to provide useful insights to the students about the |
|        |                      | present Economic standing and composition of the Indian        |
|        |                      | Economy, the major sectors and there relative importance in    |
|        |                      | the Indian Economy and the major challenges faced by it.       |
|        |                      | To acquaint the students with the polices and performances of  |
|        |                      | major sectors in Indian Economy.                               |
| B.A.II | 1. Macro Economics   | 1. This paper on money banking, income & employment            |
|        | 2. Money and Banking | public finance which combines within its folds systematic      |
|        | 3. Cooperation       | discussion and objectives analysis of theory and policy        |
|        | 4. Environmental     | concerning.  |
|        |                      | Est.: 1994   |

|         | Studies                | 2. This paper has been prepared to cater for the requirements;  |
|---------|------------------------|---|
|         |                        | all those students who are interested in acquiring based 1994   |
|         |                        | knowledge of money and banking. It would also prove             |
|         |                        | to students specialising in money and banking as well as to     |
|         | Ar.                    | students who engaged in banking sector                          |
|         |                        | 3. Generally cooperation means living, thinking, working        |
|         |                        | together and help each other to develope all society.           |
|         |                        | 4. This paper students study nature of environmental studies,   |
|         |                        | natural resources and associated problems, also environmental   |
|         |                        | problems, social issues, environmental protection, bio-         |
|         |                        | diversity and its conservation and also field work. So students |
|         |                        | help to develope there awareness in environment.                |
| B.A.III | 1. Micro Economics     | 1.In this paper the major developments in modern micro          |
|         | 2. Research            | economics are analysed vigorously and critically, mathematics   |
|         | methodology in         | being an inherent part of economics theory, so students study   |
|         | Economics              | basic concepts, models, tools and methodology of economics.     |
|         | 3. Development of      | 2.Degree level students increase awareness in research and      |
|         | Economics              | student study any problem, fact, research tools too             |
|         | 4. History of Economic | 3. One of the most significant demographic phenomena, of the    |
|         | thoughts               | 20th century has been the fast pace of development. Students    |
|         | 5. International       | study the meaning of development, its benefits, types.          |
|         | Economics              | 4. In this paper students study the development of economic     |
|         |                        | thought and basic concept of economics.                         |
|         |                        | 5. This paper show how to development of international          |
|         |                        | economics. Theory has traditional been shaped by the need to    |
|         |                        | understand the changing world economy an analyse actual         |
|         |                        | problems in international economic policy.                      |

Department of Hindi

| Class   | प्रश्नपत्र        | Course Outcome  |
|---------|-------------------|---|
| बी ए1 - | प्रश्न पत्र 1, 2. | • छात्रों की हिन्दी साहित्य के प्रति रुचि बढ़ाना तथा छात्रों को |
|         |                   | साहित्य की विविध विधाओं से परिचित कराना।                        |
|         |                   | • छात्रों को हिन्दी के प्रतिनिधि गद्दकारों एवं क्रिविधीं करे    |

| , |       |                |   |
|---|-------|----------------|---|
| / |       |                | परिचित कराना।   |
|   |       |                | • निबंध,कहानी, रेखाचित्र, एकांकी, रिपोर्ताज,संस्मर्रे   |
|   |       |                | आदि विधाओं के माध्यम से छात्रों का भावात्मक विकास कराना।  |
|   |       | *              | • छात्रों की विचार क्षमता तथा कल्पनाशीलता को बढ़ाना देना।   |
|   | बी ए  | प्रश्न पत्र 3. | • कथा साहित्य का स्वरूप, तत्व प्रकारों का अध्ययन कराना  |
|   | भाग 2 |                | • समीक्षा मानदंडों के आधारपर कथा साहित्य का अध्ययन कराना  |
|   |       |                | • कथेत्तर साहित्यं का समीक्षात्मक अध्ययन कराना  |
|   |       |                | • कथा और कथेतर साहित्य का वर्तमान प्रासंगिकता के साथ अध्ययन<br>कराना  |
|   |       | प्रश्न पत्र 4  | <ul> <li>छात्रों की साहित्य के प्रति रुचि बढ़ाना तथा साहित्य के विविध विधाओं से परिचित कराना।</li> <li>छात्रों को मध्यकालीन हिन्दी कवियों से परिचित कराना।</li> <li>नैतिक मूल्य, राष्ट्रिय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण कराना।</li> <li>आधुनिक हिन्दी कविता में चित्रित विविध विमर्शों से परिचित कराना।</li> </ul>   |
| • |       | प्रश्न पत्र 5  | <ul> <li>छात्रों में हिन्दी मे कार्य करने की विचार क्षमता, कल्पनाशीलता एवं रुचि को विकसित कराना।</li> <li>रोजगार उन्मुख शिक्षा एवं कौशल प्रदान कराना।</li> <li>पत्राचार के स्वरूप का परिचय कराना।</li> <li>कार्यालय और व्यवसाय में हिन्दी का प्रयोग का कौशल ज्ञान विकसित कराना।</li> <li>अनुवाद और व्यावहारिक लेखन का महत्व तथा उपयोगिता का परिचय कराना।</li> <li>छात्रों में हिन्दी भाषा के श्रवण, पठन एवं लेखन कौशल को विकसित कराना।</li> </ul> |

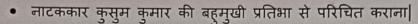


| / |               |  |
|---|---------------|--|
|   | प्रश्न पत्र 6 | • विविध कवियों से परिचित कराना।                                |
|   |               | • छात्रों में हिन्दी भाषा के श्रवण,पठन एवं लेखन के क्षमता      |
|   |               | विकसित कराना।  |
|   |               | • साहित्य के प्रति रुचि बढ़ाना                                 |
|   |               | • नैतिक मूल्य, राष्ट्रिय मूल्य एवं उत्तरदायित्व के प्रति आस्था |
|   | *             | निर्माण कराना  |
|   |               |  |
|   |               |  |
|   |               |  |
|   |               |  |
|   |               |  |



#### बी ए प्रश्न पत्र 7

भाग 3



- कुसुम कुमार के साहित्य से परिचित कराना
- नाटककार क्स्म क्मार के विचार धारा से परिचित कराना
- निर्धारित ग्रंथ का सूक्ष्म आलोचनात्मक अध्ययन कराना

#### प्रश्न पत्र 8

- साहित्य निर्मिति की प्रक्रिया का बोध कराना
- साहित्यकाव्य के विभिन्न अंग/,भेदों से परिचित कराना
- काव्य की नवीन विधाओं से परिचित कराना
- समीक्षा सिद्धांतों से परिचित कराना
- काव्य के तत्वों से परिचित कराना
- अलंकारों से परिचित कराना।

#### प्रश्न पत्र 9

- हिन्दी भाषा तथा साहित्य की विकास यात्रा से अवगत कराना
- हिन्दी भाषा के माध्यम से अलग अलग विचारधारा और प्रवृतियों से अवगत कराना
- संत,कवि उनकी रचनाएं, उनके समाज सुधार कार्य से परिचित कराना
- गद्यपद्य-, विधा और उसके भेदों उपभेदों से अवगत कराना -

### प्रश्न पत्र : 10प्रयोजन मूलक हिन्दी

- पारिभाषिक शब्दावली से परिचित कराना
- सरकारी पत्राचार से परिचित कराना
- जनसंचार एवं एलेक्ट्रोनिक माध्यमों से परिचित कराना
- अनुवाद स्वरूप महत्व तथा उपयोगिता से परिचित कराना

#### प्रश्न पत्र 11:

- भाषा के विविध रूपों का परिचय कराना
- हिन्दी भाषा एवं लिपि के उद्भव और विकास का परिचय कराना
- भाषा की धुद्धता के प्रति छात्रों को जागृत कराना
- मानक हिन्दी वर्तनी और व्याकरण से छातों को परिचित कराना





# Department of Marathi

| Class         | पेपर   | 4.   |
|---------------|--|--|
| बी            |  | Zal. Gaganbak  |
|               | 1.शब्दसंहिता (कंपल्सरी)  | 1.विद्यार्थ्यांचीमराठीसाहित्याविषयीअभिरुचीविकसितकर्णे.                         |
| <u>एभाग</u>   | 2.अक्षरबंध (ऐच्छिक)  | 2.मराठीसाहित्यपरंपरालेखक, कवीयांचापरिचयकरूनदेणे.                               |
| 1             |  | 3. विद्यार्थ्यांमध्येमातृभाषा,   |
|               |  | राष्ट्रीयएकात्मताआणिउच्चमानवीमूल्ययाविषयीजाणीवनिर्माणकरणे.                     |
|               |  | 4.   |
|               | PHO WASHINGTON   | विद्यार्थ्यांचाव्यक्तिमत्वविकासघडवूनस्पर्धापरीक्षांचीपूर्वतयारीकरूनघेणे.       |
|               | A STATE OF THE STA | 5. निबंधलेखनाच्यामाध्यमातूनभाषाउपयोजनाचीकौशल्येविकसितकरणे.                     |
|               |  | 6.चित्रपटवप्रसारमाध्यमेयांच्यालेखनआणिउपयोजनाच्याआकलनाचाअव                      |
|               | AND THE REAL PROPERTY.   | काशवादविणे   |
| बी.ए.         | 1.कायडेंजरवारासुटलाय -   | 1.नाटकयावाड्.मयप्रकाराचेआकलनकरूनघेणे.  |
| भाग 2         | जयंतपवार (नाटक)  | 2.समकालीननाटकातूननाटककारांच्यासमकालाचेप्रतिबिंबकशाप्रकारेप्र                   |
|               | 2.काव्यगंध(कविता)  | कटहोतेयाचाअभ्यासकरणे.  |
|               |  | <u> 3.नाट्याभ्यासाद्वारेप्रयोगरुपनाटकवनाट्यक्षेत्रातीलज्ञानसंपादनासचालनादे</u> |
|               | Charles Bridge 14  | ने .   |
|               |  | 4.नाट्याभ्यासातूनसभ्यतासंस्कृती ,राष्ट्रीयएकात्मतावबंधुतावाढीसलावणे.           |
|               |  | 5.विद्यार्थ्यांमध्येसंवादलेखनकौशल्यविकसितविकसितविकसितकरणे.                     |
|               |  | 6.मराठीकाव्यपरंपरा, प्रवाहांचीओळखकरूनओळखकरूनघेणे                               |
|               | Manager Street A. Cryst.   | 7.मराठीकाव्यातूनप्रकटहोणारेमाणूसआणिसमाजयातीलपरस्परसंबंधशोध                     |
|               |  | णेआणिसमाजयातीलपरस्परसंबंधशोधणे.  |
|               |  | 8.कवितेच्याकलात्मकआकृतिबंधाचेमूळअभ्यासणे                                       |
|               |  | 9.काव्यप्रवाहअनुरूपकाव्यलेखनाचेलेखनाचेविशेषअभ्यासणे                            |
|               | ASSESSED FLANE   | 10   |
|               |  | ्रपात्यक्षिकाद्वारेकाव्यलेखनकौशल्यरुजविणेकौशल्यरुजविणेलेखनकौश                  |
|               |  | ल्यरुजविणेकौशल्यरुजविणे.   |
| बी.ए.३        | साहित्यविचार   | १.पौर्वात्यवपाश्चात्यआधुनिकभारतीयसाहित्यशास्त्राचेवआधुनिकभारतीयसा              |
| <u>जा.ए.२</u> | KIIIQKHIYYIK   | हित्यशास्त्राचेस्वरूपसमजूनघेणे.  |
|               |  | 2. शब्दशक्तिचेआकलनकरूनआकलनकरूनघेणे.  |
|               |  | 3. साहित्यातीलरसाचेस्वरूपसमजूनघेणे.  |
|               | Partie of the Pa | 3. साहस्यातासस्य प्रमण्यायमः   |
|               | THE RESIDENCE OF A   | Street Reaction of party and transporting and the street                       |
|               | <u>मराठीभाषावभाषाविज्ञान</u>   | 1.भाषाविज्ञानाचापरिचयकरूनदेणे.   |
|               |  | 2. मराठीभाषेचीवर्णव्यवस्थासमजूनघेणे .  |
|               |  | <u>3. बोलींचेस्वरूपवविशेषसमजूनघेणे</u> .                                       |
|               |  |  |
|               | <u>मध्ययुगीनमराठी</u>  | १).मध्ययुगीनमराठीवाड्.मयाचापरिचयकरूनघेणे.                                      |
|               | वाड्.मयाचाइतिहास (   | 2.) मध्ययुगीनमराठीवाड्.मयाचाकालिकअभ्यास  |
|               | प्रारंभतेइ.स१८००)  | करणे.  |
|               | 14-12-10 1-10 1-10 1-10 1-10 1-10 1-10 1-1   | 3.) पंडितकवी, बखरवाड्.मयवशाहीरीवाड्.मययांचाअभ्यासकरणे.                         |
|               | मराठीभाषावअर्थार्जनाच्या   | 1.सर्जनशीललेखनप्रक्रियासमजूनघेणे <u>.</u>                                      |
|               | संधी   | 2.वैचारिकलेखनाचेस्वरूपअभ्यासकरणे.  |
|               |  | 3.   |
|               |  | प्रसारमाध्यमातीलअर्थार्जनाच्यासंधीआणिभाषिककौशल्यया वापरिचयक्र                  |
|               |  |  |

| /                        | नघेणे.  |
|--------------------------|---|
|                          | 4.  |
|                          | उद्योगवसेवाक्षेत्रातमराठीभाषेद्वारेअर्थार्जनप्राप्तीसंदर्भातज्ञानसंपार्वे कहिल्ली |
| वाड्.मयप्रवाहाचेअध्ययन ( | 1. मध्ययुगीनमहाराष्ट्रवमहानुभवपंथयांचापरिचयकरूनघेणे.                              |
| मध्ययुगीनवआधुनिक)        | 2. दृष्टांतपाठातीलभाषिकवैभवयांचापरिचयकरूनघेणे.                                    |
|                          | <u> 3.ललितगद्यवाड्.मयप्रकारयाचेस्वरूपअभ्यासणे.</u>                                |
|                          | 4.व्यक्तिचित्रसंकल्पनावस्वरूपसमजूनघेणे.   |

## Department of Botany

| Class | Syllabus                   | Outcome  |
|-------|----------------------------|--|
| B.Sc. | Botany Paper IDSC- 13      | Understanding of concept of biodiversity of non  |
| I     | A: BIODIVERSITY OF         | flowering plants   |
| CBCS  | MICROBES, ALGAE            |  |
|       | AND FUNGIBotany            |  |
|       | Paper II: DSC- 14 A:       |  |
|       | BIODIVERSITY OF            |  |
|       | ARCHEGONIATE-              |  |
|       | Bryophytes, Pteridophytes, | and the second property with a second property of  |
|       | Gymnosperms                |  |
|       | Botany Paper III: DSC-     | Understanding ecological factors and   |
|       | 13 B: PLANT                | phytogeography of India.   |
|       | ECOLOGY                    | Study of angiosperm taxonomy and role of   |
|       | Botany Paper IV: DSC-      | botanical gardens.   |
|       | 14 B: PLANT                | ALL SAME DE LA SAME LANGE LA SAME  |
|       | TAXONOMY                   | Market Sorres Control Control And Property Control   |
| B.Sc. | Botany Paper V: DSC        | Reproduction in angiosperms.   |
| II    | C13: EMBRYOLOGY            | Significance of polyembryony and apomixes  |
| CBCS  | OF ANGIOSPERMS             | Study of mineral nutrition, photosynthesis and growth  |
|       | Botany Paper VI: DSC       | The standard to the standard of the standard to the standard of the standard o |
|       | C14: PLANT                 | where some ages, To be advertised not some some and to pro-  |
|       | PHYSIOLOGY                 | and the Cambridge to the best property on a trans  |
|       | Botany Paper VII: DSC      | Understanding anatomy of parts of plant.   |
|       | D13: PLANT                 | Study of enzyme and nitrogen metabolism,   |
|       | ANATOMY                    | respiration and seed germination.  |
|       | Botany Paper VIII: DSC     | The state of the s |
|       | D14: PLANT                 | H. (   |

| -     | METADOLICA   |  |
|-------|--|--|
|       | METABOLISM   | Est.: 1994   |
| B.Sc. | Paper- IX DSE -E25   |  |
| III   | Genetics and Plant   | role in living systems, experimental evidences to prove contava. |
| CBCS  | Breeding   | DNA as a genetic material, Understanding concepts of             |
|       | ***  | genetics and to study  |
|       |  | analytical techniques in botany                                  |
|       | Barrier Art. St. Com.  | Understand the science of plant breeding. 2. To introduce        |
|       | The second of the  | the student with branch of plant breeding for the survival       |
|       |  | of human being from starvation. 3. To study the                  |
|       |  | techniques of production of new superior crop verities. 4.       |
|       |  | Understand the modern strategies applied in Genetics and         |
|       |  | Plant Breeding to sequence and analyze genomes 5. Get            |
|       |  | the detail knowledge about modern strategies applied in          |
|       |  | Plant Breeding for crop improvement i.e. Mass selection,         |
|       |  | Pureline Selection and Clonal selection. 6. Know about           |
|       |  | exploitation of Heterosis, hybrid and variety development        |
|       |  | and their release through artificial hybridization.              |
|       | Paper- XDSE -E26   | Study of applications of microbiology and plant                  |
|       | Microbiology, Plant  | Diseases   |
|       | Pathology and Mushroom   | Understand the concept, principle and types of                   |
|       | Culture Technology   | sterilization methods. 2) Know the concept and                   |
|       | C. Ar and John St.   | characteristics of antiseptic, disinfectant and their mode of    |
|       |  | action. 3) Know the cultivation methods of bacteria,             |
| )     |  | yeast, fungi and virus. 4) Principle, working and                |
|       |  | applications of instruments viz, pH meters,                      |
|       |  | spectrophotometer, centrifuge, viscometer, and laminar           |
|       |  | air flow. 5) Understand the Microbial Genetics and               |
|       |  | Recombination in Bacteria. 6) Know the terminologies in          |
|       |  | plant pathology. 7) Understand the scope and importance          |
|       |  | of Plant Pathology. 8) Know the prevention and control           |
|       |  | measures of plant diseases and its effect on economy of          |
|       | Paper- XI DSE -E27   | Know the details of Microscopy- Principles of light              |
|       | Cytology and Research  | microscopy, electron microscopy (TEM and SEM). 4.                |
|       | Techniques in Biology  | Understand & perform Chromatography and cultural                 |
|       | The Control of the Co |  |

|                        | Adamidyaidya, 77,50  |
|------------------------|--|
|                        | techniques in Botany. 5. Understand the methods used in              |
|                        | Micrometry, Microtomy and Microphotography.                          |
| Paper- XII DSE-E28     | To gain knowledge of gardening, cultivation caganitation             |
| Horticulture and       | multiplication, raising of seedlings of ornamental plants            |
| Gardening              | Complete Services on Special Control of the Services on the Services |
| Paper- XIII DSE -F25   | Understand the properties of Monosaccharides,                        |
| Plant Biochemistry and | Oligosaccharides and Polysaccharides. 2) They will learn             |
| Molecular Biology      | about the Significance of Carbohydrates. 3) Understand               |
|                        | the Properties of saturated fatty acids, and unsaturated             |
|                        | fatty acids. 4) Understand lipid metabolism in plants. 5)            |
|                        | Understand the Beta Oxidation, Gluconeogenesis and its               |
|                        | role in mobilization of fatty acids during germination. 6)           |
|                        | They will learn about the Significance of lipids. 7) They            |
|                        | will be able to understand Brief outline of biosynthesis of          |
|                        | amino acid. 8) Understand the protein - structure and                |
|                        | classification and protein biosynthesis in prokaryotes and           |
|                        | eukaryotes. 9) They will learn about the nucleic acid                |
|                        | metabolism   |
| Paper- XIV DSE -F26    | With a working knowledge of the practical and theoretical            |
| Bioinformatics,        | concepts of bioinformatics, you will be well qualified to            |
| Biostatistics and      | progress onto advanced graduate study. The portfolio of              |
| Economic Botany        | skills developed on the programme is also suited to                  |
|                        | academic research or work within the bioinformatics                  |
|                        | industry as well as range of commercial settings. After              |
|                        | studying Economic Botany, students would have first                  |
|                        | hand information of plants used as food, the various kinds           |
|                        | of nutrients available in the plants. The dietary                    |
|                        | requirements of proteins, fats, amino-acids, vitamins etc            |
|                        | that can be met by plants. The students will learn to                |
|                        | perform the micro-chemical tests to demonstrate various              |
|                        | components. The students will learn about the use of fibre           |
|                        | plants, beverages, fruits and vegetables that are integral to        |
|                        | day to day life of plants. Students will learn to explore the        |
|                        | regional diversity in food crops and other plants and their days.    |
|                        | AGU, JAN   |

avidyalaya, To

|  | ethno-botanical importance as well.                          |  |
|--|--|--|
| Paper- XV DSE -F27   | Know about the genomic organization or living                |  |
| Plant Biotechnology and  | organisms, study of genes genome, chromosome etc.            |  |
| Paleobotany  | Gain knowledge about the mechanism and essential             |  |
| *  | component required for prokaryotic DNA replication. 3)       |  |
| The state of the s | Understand the fundamentals of Recombinant DNA               |  |
|  | Technology. 4) Know about the Genetic Engineering. 5)        |  |
| The state of the s | Understand the principle and basic protocols for Plant       |  |
|  | Tissue Culture. 6) The concept of operon and its structure   |  |
|  | and regulation   |  |
| thomas,  | ) Know the scope of Paleobotany, types of fossils, its role  |  |
|  | in blobal economy and geological time scale. 11)             |  |
|  | Understand the various fossil genera representing            |  |
|  | different fossil groups.                                     |  |
| Paper- XVI DSE -F28  | The student would have a deep understanding of               |  |
| Bio fertilizers and Herbal   | ecofriendly fertilizers. They will be able to understand the |  |
| Drug Technology  | growth and multiplication conditions of useful microbes      |  |
|  | such as Rhizobium, cyanobacteria, mycorrhizae,               |  |
|  | Azotobactoretc, their role in mineral cycling and nutrition  |  |
|  | to plants. The can also think of the methods of              |  |
|  | decomposition of biodegradable waste and convert into        |  |
|  | the compost  |  |

## Chemistry

| Programme Name   Course Name/ |                     | Course Outcome                                 |
|-------------------------------|---------------------|--|
|                               | paper               |  |
| B. Sc. I                      | Paper I Inorganic   | 1. Basic concepts regarding nature of chemical |
| Semester                      | Chemistry           | bonds.   |
| I &II                         | DSC-3A              | 2. Chemical bonding according to VBT and MOT.  |
|                               | Paper II Organic    | 1. Understanding the stability of compounds on |
|                               | Chemistry           | the basis of aromaticity.                      |
|                               | DSC-4A              | 2. Basic knowledge of reactive intermediates.  |
|                               | Paper III Physical  | 1. Basic concepts of Thermodynamics and        |
|                               | Chemistry           | Chemical Kinetics.                             |
|                               | DSC 3B              | 2. Entropy and enthalpy of chemical system.    |
|                               | Paper IV Analytical | 1. Basic skills of various analytical units    |
|                               | Chemistry           | 1. Basic skills of various analytical units    |
|                               | DSC-4B              | operations.                                    |
|                               |                     | H 84   |

| B. Sc. II<br>Semester<br>III &IV | Paper V Physical<br>Chemistry<br>DSC- C3    | 1. Understand functioning and construction Electrochemical cell. 2. Physical properties of liquids.  |
|----------------------------------|---|--|
|                                  | Paper VI Industrial<br>Chemistry<br>DSC-C4  | 1. Chemical constitution in soap and detergents and its applicability  |
|                                  | DSC-C4                                      | 2. Concepts of corrosion and electroplating in metals  |
|                                  | Paper VII Inorganic<br>Chemistry<br>DSC-D3  | 1. Understanding the basics of coordination chemistry.   |
|                                  | Paper VIII Organic<br>Chemistry             | compounds.   |
|                                  | DSC- D4                                     | 2. Industrially important Name reactions and its applicability in various field.   |
| B. Sc. III<br>Semester           | Paper IX Inorganic<br>Chemistry             | 1Detail study of organometallic compounds and semiconductors.  |
| V &VI                            | DSE-E5                                      | 2Applicability and hazards of various polymers  1. Elucidation of structure of various organic   |
|                                  | Paper X Organic<br>Spectroscopy<br>DSE-E6   | compounds by using UV-VIS, IR, NMR and Mass spectroscopic techniques   |
|                                  | Paper XI Physical<br>Chemistry<br>DSE-E7    | <ol> <li>Quantum theory and its applicability in chemistry.</li> <li>Elucidation of structure of chemical compounds</li> </ol>                                     |
|                                  | Paper XII Analytical                        | by studying the spectroscopic techniques.  2. Understanding of different chemical processes  |
|                                  | Chemistry DSE-E8 Paper XIII Inorganic       | in industry.  1. Radioactivity and its applications in various   |
|                                  | Chemistry<br>DSE-F5                         | field.  2. Kinetic and thermodynamic stability of complexes.   |
|                                  | Paper XIV Organic<br>Spectroscopy<br>DSE-F6 | <ol> <li>Reaction mechanism and industrial applicability of various name reactions and reagents.</li> <li>History and chemistry of Natural products and</li> </ol> |
|                                  | Paper XV Physical<br>Chemistry              | its pharmaceutical applications.  1. Radioactivity of various elements and its usefulness.   |
|                                  | DSE-F7                                      | 2.Rate of simultaneous reactions can be studied by chemical kinetics   |
|                                  | Paper XVI<br>Analytical                     | 1. Chromatographic techniques for chemical analysis.  2. Applicability of various instruments like   |
|                                  | Chemistry DSE-F8                            | 2.Applicability of various instruments like Potentiometer, conductometer, etc.   |

