

**कोर्स आउटकम बी.ए.
(हिंदी साहित्य)**

बी.ए. प्रथम वर्ष

प्रथम प्रश्न पत्र - हिंदी काव्य

- 1) इस पाठ्यक्रम के अध्ययन से विद्यार्थी हिंदी काव्य की सुदीर्घ परंपरा से परिचित होंगे
- 2) प्रसिद्ध रचनाओं के अध्ययन से देश की सामाजिक सांस्कृतिक एवं राष्ट्रीय पृष्ठभूमि से सुविज्ञ होंगे
- 3) विद्यार्थियों के व्यक्तित्व का विकास होगा उनके जीवन दृष्टि का विस्तार होगा जिससे वह जीवन एवं जीवन मूल्य को समझने के समक्ष होंगे
- 4) रचनात्मक कौशल में दक्षता होगी जिससे उस में रोजगार की अनेक संभावनाएं मिलेंगी

द्वितीय प्रश्न पत्र - कार्यालयीन हिंदी एवं भाषा कंप्यूटिंग,

- 1) इस कोर्स के माध्यम से विद्यार्थी कार्यालय के कार्यों की मूलभूत जानकारी एवं कार्यशैली से परिचित हो सकेंगे जिससे वह कार्यालयीन कार्य करने में सक्षम होंगे
- 2) नई तकनीकी के माध्यम से ज्ञान विज्ञान के क्षेत्र में विशेषज्ञता प्राप्त कर सकेंगे
- 3) भाषा कंप्यूटिंग में दक्षता होगी और रोजगार प्राप्ति के अवसर मिलेंगे

बी.ए. द्वितीय वर्ष

प्रथम प्रश्न पत्र - हिंदी गद्य

- 1) विद्यार्थी हिंदी गद्य साहित्य एवं प्रमुख रचनाओं से परिचित होंगे
- 2) विद्यार्थियों में साहित्य अध्ययन से संवेदनशीलता एवं मानवीय गुणों का विकास होगा
- 3) साहित्य क्षेत्र में सृजनात्मक लेखन एवं समीक्षा के प्रति प्रेरित होंगे उन्हें रचनाओं के प्रकाशन एवं अध्यापन के क्षेत्र में रोजगार प्राप्ति के अवसर प्राप्त होंगे

द्वितीय प्रश्न पत्र - अनुवाद विज्ञान

- 1) विद्यार्थी में अनुवाद कौशल का विकास होगा
- 2) भारतीय एवं विश्व भाषा साहित्य के अनुवाद क्षेत्र में रोजगार के अवसर प्राप्त होंगे
- 3) वैश्विक प्रतिस्पर्धात्मक वातावरण के साथ सामंजस्य बनाने में सक्षम होंगे

बी.ए. तृतीय वर्ष

प्रथम प्रश्न पत्र - प्रयोजनमूलक हिंदी

- 1) विद्यार्थी में कंप्यूटर ज्ञान एवं कौशल का विकास होगा
- 2) पत्रकारिता के क्षेत्र में रोजगार के अवसर प्राप्त होंगे
- 3) दूर संचार के माध्यमों का ज्ञान प्राप्त होगा

द्वितीय प्रश्न पत्र - हिंदी नाटक निबंध तथा स्फुट गद्य- विधाएं एवं मालवी भाषा साहित्य

- 1) नाटक एवं निबंध गद्य विधाओं से परिचित होंगे
- 2) मालवी भाषा का ज्ञान प्राप्त होगा
- 3) नाटककार एवं निबंध कारों का जीवन परिचय जानेंगे जीवन मूल्य को समझने के समक्ष होंगे
- 4) रचनात्मक कौशल में दक्षता होगी जिससे उस में रोजगार की अनेक संभावनाएं मिलेंगी

History

Course outcomes

B.A. first year

Paper -1 Idea of Bharat

CO 1. Students will acquire knowledge regarding the primitive life and cultural status of the people of ancient India.

CO 2. They can gather knowledge about the society, culture, religion and political history of ancient India.

CO.3 They will also acquire the knowledge of changing socio- cultural scenarios of India.

CO.4 Students will get to know the golden past of India and feel proud of themselves.

Paper Second - History of ancient India

CO.1 The students will learn to analyze the various stages of evolution and development of man in the prehistoric period.

CO.2 They will be able to write meaningful essays on the brave and courageous Rajput clean and the South Indian dynasties.

CO.3 They will explain in detail about the golden past of India during the Mauryan and Gupta period.

B .A. second year

Paper 1- History of Medieval India

CO 1 Present clear cut ideas about the consolidation of the Delhi sultanate and contemporary Indian rulers.

CO.2 They will be able to give an analytical view of the various dynasties of the Delhi sultanate which dominated the political and cultural landscape of that period for a long time .

CO3. They will be able to explain with examples the causes of India fragmentation and try to learn a lesson from the past .

Paper Second- History of Modern India

CO1 They will be able to learn about all the treaties that the Kings of India were forced to make with the British.

CO2. They will be able to answer queries related to the formation of Indian national congress.

CO.3. They will also be able to conduct a discussion on the role of women in the Indian National movement .

B .A. Third Year

Paper 1- History of India from 1740 to 1857A.D.

CO.1 They will be able to learn Growth of colonial administration.

CO.2 They will be able to learn about History of India

CO.3 They will be explain about cripps mission , Simla conference, cabinet Mission ,and main features of the Indian Constitution.

Paper 2- History of India From 1858 A.D. to 1950 A.D.

CO.1 Students will develop skills to evaluate the sources, methods, motivations, and interpretations behind historical narratives.

CO.2 Students point out strengths and weaknesses of a historical argument
Students understand the historical contexts of different historical interpretations
Students compare, contrast, and explain differences between historical accounts

CO3. Students will learn a variety of sound historical research practices
Students formulate appropriate research questions
Students critically analyze appropriate primary and secondary sources
Students take into account the complexity and ambiguity of primary sources
Students reflect on the limitations of their sources and on silences in the historical record

CO4. Students will learn how to craft and present convincing and well supported arguments
Students present work with a clearly developed and methodologically sound historical argument and conclusion
Students provide a historiographical perspective to their work
Students present appropriate evidence for answering a research question with properly cited primary and secondary sources

CO.5 Students will recognize and appreciate the diversity of human experiences and how these change over time
Students describe how historical actors are differently affected by their ethnicity, race, class, gender, sexual orientation, and language
Students demonstrate how political, economic, and social structures affect historical change

B.A.(Economics)

Course outcome

B.A. 3year

Paper1 विकास एवं पर्यावरण अर्थशास्त्र

- CO 1 इस पाठ्यक्रम को पूर्ण करने के पश्चात विद्यार्थी आर्थिक वृद्धि और विकास को समझने में सक्षम होंगे
- CO 2 विकास के सिद्धांत एडम स्मिथ कार्ल मार्क्स शंपीटर व रोस्टोव की आर्थिक अवस्थाओं का अध्ययन करेंगे
- CO 3 संतुलित संतुलित बनाम असंतुलित विकास बड़े धक्के का सिद्धांत जिसमें विद्यार्थी यह जानेंगे कि संतुलित एवं असंतुलित को कैसे ठीक किया जा सकता है
- CO 4 आर्थिक विकास में महिला सशक्तिकरण लैंगिक विकास सूचकांक के बारे में विद्यार्थी जानेंगे
- CO 5 विद्यार्थी आर्थिक विकास में पर्यावरण को कैसे बचाया जा सकता है इसका अध्ययन करेंगे

Paper 2nd : statistics

- CO1 विद्यार्थी इस इकाई में सांख्यिकी का अर्थ एवं परिभाषा और साथ में समको क्या महत्व होता है यह जानेंगे
- CO2 विद्यार्थी को केंद्रीय प्रवृत्ति का मापन माध्य माध्यिका बहुलक आदि को समझने में सक्षम होंगे
- CO3 इस इकाई में विद्यार्थी कार्ल पियर्सन का संबंध गुणांक का अध्ययन करने से दो वस्तुओं में किस प्रकार संबंध होते हैं
- CO4 इस इकाई का अध्ययन करने के पश्चात विद्यार्थी लेस्पियर पाशचे एवं फिशर का सूचकांक से सूचकांक के बारे में जान पाएंगे
- CO 5 प्रायिकता का अध्ययन करने के बाद विद्यार्थी किसी भी बात में कितनी सत्यता पाई जाती है यह जानने में सक्षम होंगे

B.A. 2nd YEAR

Paper:- 1 Macro economics(समष्टि अर्थशास्त्र)

- CO1 इस पाठ्यक्रम को पूर्ण करने के पश्चात विद्यार्थी समष्टि अर्थशास्त्र एवं व्यष्टि अर्थशास्त्र में अंतर समष्टि आर्थिक चर राष्ट्रीय आय और प्रतिष्ठित एवं किसवादी विचारधाराओं में उत्पादन और रोजगार के निर्धारण को समझने में सक्षम होंगे

CO 2 वे अर्थव्यवस्था में उपभोग एवं निवेश की कार्य पद्धति को समझ सकेंगे तथा आई एस एल एम वक्र का निर्धारण कर उनके अर्थव्यवस्था में उपभोग की व्याख्या कर सकेंगे

CO 3 विद्यार्थी मुद्रास्फीति अवस्फीति और व्यापार चक्र के विभिन्न सिद्धांतों की अवधारणा माप और प्रभावो की व्याख्या करने में सक्षम होंगे

Paper:- 2 मुद्रा बैंकिंग एवं लोक वित्त

इस पाठ्यक्रम को सफलतापूर्वक पूर्ण करने के पश्चात विद्यार्थियों में यह योग्यता होगी कि वे

CO 1 मुद्रा के परिमाण सिद्धांत मुद्रा पूर्ति के निर्धारक तत्व साख निर्माण की प्रक्रिया साख नियंत्रण और व्यापारिक बैंकों एवं केंद्रीय बैंक के कार्यों की व्याख्या कर सकेंगे

CO 2 सरकार की भूमिका सार्वजनिक वस्तुओं के लिए प्रावधान कर के अनुकूलतम ढांचे एवं आर्थिक नीतियों के विभिन्न पहलुओं को समझ सकेंगे

CO 3 विकासशील देशों में सार्वजनिक व कराधान के प्रभाव और सार्वजनिक ऋण की भूमिका की व्याख्या कर सकेंगे

B.A. 1st YEAR

Paper:- 1 micro economics

CO 1 इस पाठ्यक्रम को पूर्ण करने के बाद विद्यार्थी व्यष्टि अर्थशास्त्र के तर्कसंगत व्यवहार और बुनियादी अवधारणाओं को समझने में सक्षम होंगे

CO 2 वे उपभोक्ता और उत्पादकों के व्यवहार और उनके इष्टतम निर्णय की व्याख्या एवं फर्म और उद्योगों द्वारा बाजारों में स्थित उत्पादन के निर्णय के बारे में जान सकेंगे

CO 3 विद्यार्थी वितरण के सिद्धांत और आर्थिक कल्याण की अवधारणा को समझ सकेंगे

CO 4 व्यष्टि अर्थशास्त्र सीखना वास्तविक दुनिया में हमें प्रभावित करने वाले कई कारकों की समझ हासिल करने का एक प्रभावी तरीका है जैसे कि सामान खरीदने के तरीके उत्पादन मूल्य निर्धारण और साधन मूल्य निर्धारण

CO 5 अर्थशास्त्र के सिद्धांतों के बारे में जानने के लिए व्यष्टि अर्थशास्त्र को समझना महत्वपूर्ण है

Paper:-2 भारतीय अर्थव्यवस्था

CO 1 इस पाठ्यक्रम को पूर्ण करने के बाद विद्यार्थी भारतीय अर्थव्यवस्था का विस्तृत अध्ययन कर अपने विश्लेषणात्मक कौशल में अभिवृद्धि करने में सक्षम होंगे

CO 2 भारत में कृषि उद्योग विदेशी व्यापार आर्थिक नियोजन और विभिन्न आर्थिक समस्याओं के संबंधित मुद्दों से परिचित होंगे तथा मध्य प्रदेश की अर्थव्यवस्था के विभिन्न पहलुओं को भी समझ सकेंगे

CO 3 भारतीय अर्थव्यवस्था की घटनाओं और मुद्दों की व्याख्या एवं विश्लेषण करने में विद्यार्थी सक्षम होंगे

Govt. College, Nagda

(Course outcomes)

English Literature

B.A. First Year

Paper 1- Study of Drama

CO 1 Students will acquire the knowledge of different genres of drama aka comedy, tragedy and epic theatre.

CO 2 Students will acquire the Knowledge of Sanskrit, Greek, English, American and Indian plays.

CO 3 Students will acquire the Knowledge of dramatic techniques and elements like plot, theme, character and spectacle.

Paper 2- Study of Poetry

CO 1 Students will be able to identify, interpret, analyze and appreciate the various elements of poetry.

CO 2 Students will be able to develop literary intellect.

CO 3 Students will be able to appreciate the lyrical and sonorous quality of language.

B.A. Second Year

Paper 1- Study of Prose

CO 1 Students will be able to analyze literary device, forms and techniques in order to appreciate and interpret the text.

CO 2 Students will be able to learn broaden analytical skills and develop critical thinking skills.

CO 3 Students will be able to cultivate wisdom and world-view within themselves.

CO 4 Students will be able to develop language and communication skills and creativity.

Paper 2- Study of Fiction

CO 1 Students will be able to understand various aspects and forms of fiction.

CO 2 Students will be able to trace the origin and development of English novels.

CO 3 Students will be able to appreciate morality and humanity.

CO 4 Students will be able to improve the understanding of the world and the complexities of human mind.

CO 5 Students will be able to expand creativity and imagination and enriched the vocabulary in a delightful manner.

B.A. Third Year

Paper 1- Poetry

CO 1 Students will be able to learn about the socio, political, cultural and literary background of Victorian period by studying Victorian poets.

CO 2 Students will be able to learn about the socio, political, cultural and literary background of modern period by studying modern poets.

CO 3 Students will be able to learn about the classical and modern variants of Indian poetry by studying Indian poet.

CO 4 Students will also be able to grasp cultural ideology and folklore studies of Indian background.

Paper 2- Fiction

CO 1 Students will be able to learn Non-English sensibility into English Literature and also learn about the 19th century realism.

CO 2 Students will learn the naked reality of modern life through the fiction of D. H. Lawrence.

CO 3 Students will be able to see India of British Era.

CO 4 By studying the novels of Indian writers, students will be able to learn the socio, political and cultural aspects of India.

Political science

(Course outcomes)

B. A. First Year

Paper 1- political Theory

CO 1 Student will be able to understand meaning and significance of political theory. Different ideologies and approaches.

CO 2 They will be able to explain concept of state and its changing nature.

CO 3 They will be able to explain liberty, equality, justice and rights.

CO 4 They will be able to explain different models of democracy and theories of representation.

Paper 2-Indian Constitution

CO 1 Students will be able to understand the Constitutional development in India.

CO 2 They will be able to answer how Constitution assembly was formed.

CO 3 They will be able to describe the significance of the preamble, fundamental rights and directive principles of state policy in the Constitution design of India.

CO 4 They will be able to answer questions pertaining to the function and role of the president, prime minister, governor, chief minister, parliament and state legislature, and the courts in the constitutional design of India.

B. A. Second Year

Paper 1-Western Political Thought

- CO 1 The students will understand the significance of study of political philosophy.
- CO 2 The students will know the key ideas of Greek political thinkers Plato and Aristotle.
- CO 3 They will be able to explain what was the ideal state according to Plato and how it was linked to his scheme of education and theory of justice.
- CO 4 They will be able to answer how Aristotle differed from his master Plato on the conception of justice.
- CO 5 They will be able to answer why Machiavelli gave an overriding priority to pragmatism above ethics and values in operation of statecraft.
- CO 6 They will be able to make a distinction among Hobbes, Locke, and Rousseau on the state of nature, the law of nature, nature and form of contract and the emergence of state from the contract.
- CO 7. Students would learn the key ideas of idealist thinkers.

Paper 2- Indian political Thinkers

- CO 1 Students will be able to think of Manu and Kautilya.
- CO 2 Students will be able to explain Social and political Ideas of Rajaram Mohan Roy, Swami Vivekananda, Lokmanya Bal Gangadhar Tilak, Shree Aurobindo Ghosh.
- CO 3 They will be able to explain the key ideas of Mahatma Gandhi, Jawaharlal Nehru, Shubhas Chandra Bose, Dr. Bhimrao Ambedkar, M. N. Roy, Ram Manohar Lohia, Jayaprakash Narayan and Pt. Deendayal Upadhyaya.

CO 4 They will be able to understand the contribution of women in Indian political thought.

B. A. Third Year

Paper 1 - Indian Foreign policy

CO1 Students will be able to explain policy of India ,Development, salient Features, Principles and determinants.

CO 2 They will be able to explain India's Relations with neighbouring countries, Pakistan, Bangladesh, Bhutan, Sri Lanka, Afghanistan

CO 3 Students will understand the Relations with super power America, Russia, China.

CO 4 They will be able to explain the Regional organization like SAARC, ASEAN, BRICS

CO 5 Students will be able to understand the contemporary international issue human rights, terrorism, globalization, environmental .

Paper 2 - Public Administration

CO 1 students will be able to understand what is public administration and what meaning nature of scope.

CO 2 Students will be explain to how the system works and what is the agencies line and staff.

CO 3 They will be able to know about recruitment , training, promotion, union public Service Commission.

CO 4 Students will be able to understand financial administration.

CO 5 students Will be able to explain what is development administration

समाज शास्त्र (Course outcome)

1. B. A. 3rd year

Paper:1 भारतीय समाज एवं संस्कृति

इस पाठ्यक्रम से छात्रों को भारतीय समाज की अवधारणा कार्य और दैनिक जीवन से परिचित कराने की आशा है यह छात्रों के समक्ष भारतीय समाज का एक व्यापक एकीकृत और अनुभवजन्य चित्र प्रस्तुत करेगा

CO 1 इस पाठ्यक्रम से विद्यार्थी को भारतीय समाज की मूल संरचना के बारे में एक धारणा मिलेगी इसके ऐतिहासिक आधार समाज और संस्थानों की बुनियादी दार्शनिक न्यू संबंधित अंतर्दृष्टि मिलेगी

CO 2 इस पाठ्यक्रम की सहायता से विद्यार्थियों में भारतीय परंपराओं की व्यापक समझ विकसित होगी जो वर्तमान समय में हमारे समाजीकरण से विलुप्त हैं

CO 3 पाठ्यक्रम के द्वारा विद्यार्थी भारतीय समाज के तीन स्तर अरण्यक लोक और नगर के बारे में विस्तार से जानकारी प्राप्त करेंगे

CO 4 यह पाठ्यक्रम विद्यार्थियों के भविष्य में विभिन्न स्थानीय क्षेत्रीय रोजगार के संसाधनों को चुनने में मदद करेगा

Paper:2 समाजशास्त्र की प्राथमिक अवधारणाएं

CO 1 पाठ्यक्रम में समाजशास्त्र की सभी प्रमुख अवधारणाओं को शामिल किया गया है जो विद्यार्थियों को सामान्य ज्ञान और समाजशास्त्री ज्ञान के बीच अंतर करने के लिए गहरी अंतर्दृष्टि विकसित करने में सक्षम बनाता है

CO 2 इस पाठ्यक्रम के अध्ययन से विद्यार्थियों को शासकीय कारपोरेट गैर सरकारी संगठन एवं स्वरोजगार के क्षेत्र में रोजगार के विभिन्न अवसरों के बारे में जानकारी मिलेगी

CO 3 परिवार विवाह नातेदारी जैसी भारतीय सामाजिक संस्थाओं की अवधारणाओं का अध्ययन छात्रों को कई सामाजिक समस्याओं को सुलझाने में सक्षम बनाएगी

CO 4 इस पाठ्यक्रम में विद्यार्थियों को अपनी संस्कृति के प्रति जागरूक करने के साथ-साथ उनके व्यक्तित्व विकास में सहायता होगी

CO 5 संस्कृति सामाजिकरण और सभ्यता की शिक्षा छात्रों को सामाजिकरण की नई एजेंसीयो से परिचित कराएगी और उनके व्यक्तित्व विकास में सहायता होगी

2. B.A. 2nd Year

Paper:- 1 सामाजिक शोध की मूलभूत अवधारणाएं

यह प्रश्न पत्र विद्यार्थियों को शोध अंतर्ज्ञान विकसित करने में सहायता करेगा इस प्रश्न पत्र के माध्यम से उन्हें वैज्ञानिक पद्धति की प्रकृति तथा मूल्य तटस्थता को प्राप्त करने के तरीकों की जानकारी प्राप्त होगी

CO 1 यह प्रश्न पत्र विद्यार्थियों को यथार्थ के महत्व तथा वस्तुनिष्ठ एवं विश्वसनीय में जानकारी एकत्र करने के तरीकों के बारे में शिक्षा देगा

CO 2 यहां उनमें पठन लेखन तथा तर्क करने की दक्षता विकसित करेगा

CO 3 इस प्रश्न पत्र का अभिकल्पन विद्यार्थियों को सामाजिक प्रघटनाओं के वैज्ञानिक अध्ययन से परिचित कर आएगा

इस पाठ्यक्रम से विद्यार्थियों को शासकीय एवं अशासकीय संस्थानों द्वारा संचालित अकादमी आधारित एवं नीति संबंधी शोध परियोजनाओं में रोजगार के अनेक अवसर प्राप्त होंगे।

Paper 2:- सामाजिक परिवर्तन एवं विकास

सामाजिक परिवर्तन अपरिहार्य हैं तथा परिवर्तन के शोध के बिना मानव समाज का ज्ञान अधूरा है इस पाठ्यक्रम की रचना विद्यार्थियों को सामाजिक परिवर्तन एवं समाज पर इस के सर्वांगीण विकास के बारे में विस्तृत ज्ञान प्रदान करने के लिए की गई है

CO 1 प्रस्तुत पाठ्यक्रम विद्यार्थियों को सामाजिक परिवर्तन की अवधारणाओं विभिन्न कारण प्रक्रिया एवं सिद्धांतों से परिचित कर आएगा

CO 2 यह पाठ्यक्रम विकास की अवधारणा एवं इसके परिणामों का भी ज्ञान विद्यार्थियों को प्रदान करेगा

CO 3 सरकार की विभिन्न नीतियों उपकरण उनका क्रियान्वयन एवं उत्पन्न होने वाली समस्याओं का आलोचनात्मक योगदान विद्यार्थियों को एक अंत दृष्टि प्रदान करेगा

CO 4 इस पाठ्यक्रम में निहित ज्ञान के माध्यम से विद्यार्थी नियोजन एवं विकास संबंधित विभागों में परिवर्तन एवं विकास के माध्यमों के रूप में कार्यशील गैर सरकारी संगठनों में परियोजना एवं नियोजन संबंधी कार्य करने वाले विभिन्न शोध संस्थानों में रोजगार के अवसर प्राप्त करने में सफल होंगे

3. B.A. 3rd year

Paper:- 1 समाजशास्त्री विचारक

CO 1 इस इकाई में विद्यार्थी विज्ञानों का संस्करण तीन स्तरों का नियम प्रत्यक्षवाद, आत्महत्या, धर्म, सांस्कृतिक परिवर्तन के सिद्धांतों को समझने में सक्षम होंगे

CO 2 इकाई को पढ़ने के पश्चात विद्यार्थी मैक्स वेबर कार्ल मार्क्स राष्ट्रीय वेबलिन के सिद्धांतों का अध्ययन करने से छात्रों को ज्ञान प्राप्त होगा

CO 3 प्रकार्यवाद संदर्भ अनुरूपता एवं विचलन सामाजिक क्रिया का सिद्धांत तथा सामाजिक व्यवस्था का अध्ययन करने के बाद विद्यार्थी इनको प्रत्यक्ष या अप्रत्यक्ष रूप से समझने में सक्षम होंगे

CO 4 महात्मा गांधी राधाकमल मुखर्जी डॉक्टर बी आर अंबेडकर आदि महापुरुषों के विचारों से विद्यार्थी इनके मार्ग पथ पर चलने में सक्षम होंगे

CO 5 इस इकाई का अध्ययन करने के पश्चात विद्यार्थियों को यह समझने में सहायता होगी कि सांस्कृतिक पश्चिमीकरण लौकिकीता भारत में राष्ट्रवाद की सामाजिक पृष्ठभूमि में भारतीय परंपराओं का आधुनिकीकरण किस प्रकार किया गया है। छात्र इसको समझने में सक्षम होंगे।

Paper:- 2 सामाजिक अनुसंधान विधि

CO 1 इस इकाई का अध्ययन करने के बाद विद्यार्थी सामाजिक अनुसंधान का अर्थ महत्व विशेषताएं एवं वैज्ञानिक शोध के प्रमुख चरण जो सामाजिक सर्वेक्षण का अध्ययन से सामाजिक अनुसंधान को समझने में सक्षम होंगे

CO 2 इस इकाई में विद्यार्थी विभिन्न अनुसंधान पद्धतियों का अध्ययन करने के बाद अनुसंधान को किस प्रकार से निकाला जाता है यह जानेंगे

CO 3 अनुमापन प्रक्रिया अनुमापन के प्रकार तथा तथ्यों का वर्गीकरण एवं सारणीयन से विद्यार्थी किसी भी समूह को समझने में सक्षम होंगे

CO 4 उपयोगिता एवं सीमाएं, केंद्रीय प्रवृत्ति का अर्थ और केंद्रीय प्रवृत्ति का मापन से विद्यार्थीओं में सांख्यिकी की उपयोगिता के बारे में समझने में सक्षम हैं।

CO 5 सांख्यिकी के सामंको का प्रस्तुतीकरण चित्र एवं रेखा चित्र के माध्यम से सामाजिक अनुसंधान के सामंको को को टेबल के द्वारा विद्यार्थी समझने में सक्षम होंगे

Govt. College, Nagpur

B.COM
(COURSE OUTCOME)

B.Com I Year

PAPER I Financial Accounting (MAJOR-I)

Successful completion of this course, the student will be able to: Acquire conceptual knowledge of basics of accounting

- CO 1 Identify events that need to be recorded in the accounting records
- CO 2 Develop the skill of recording financial transactions and preparation of reports in Accordance with GAAP
- CO 3 Describe the role of accounting information and its limitations
- CO 4 Equip with the knowledge of accounting process and preparation off in a accounts of sole trader
- CO 5 Identify and analyze the reasons for the difference between cash book and Pass book balances
- CO 6 Recognize circumstances providing for increased exposure to errors and Frauds

PAPER II BUSINESS REGULATORY FRAMEWORK (MAJOR-II)

The outcome of this course is to provide the students with practical legal knowledge of general business law issues. To Understand the Essentials of A Valid Contract, The Laws Of The Act, Consideration And The Various Modes Of Discharge Of A Contract To Explain the Various Laws with Regard to The Sale of Goods and Performance of a Sale Contract and Remedial Measures, to Familiarize the Students with The Various Law with Regard to Consumer Protection in India And the Functions of Various Consumer Forum sand, to Understand the Meaning and The Various Legislations with Outcomes Regard to The Cyber Laws

**PAPER III BUSINESS ORGANIZATION AND COMMUNICATION
(MINOR)**

After completion of this course it is expected that the student shall understand the basics of the business and will be able to imbibe how any business can be organized successfully: The chapter's related communication shall be able to elucidate how communication plays an important role in modern business scenario

PAPER IV Business Economics (General Elective)

Upon successful completion of the course a student will be able to Outcomes

- CO 1 Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of a good produced.
- CO 2 Understand the links between household behavior and the economic models of demand.
- CO 3 Represent demand, in graphical form, including the downward slope of the demand curve and what shifts the demand curve.
- CO 4 Understand the links between production costs and the economic models of supply.
- CO 5 Understand the concept of Pricing
- CO 6 Analyze operations of markets under varying competitive conditions

B.COM COMPUTER APPLICATION

DATA PROCESSING SOFTWARE (ELECTIVE)

On the completion of this course student will be able to understand the basic concepts of various Applications of Software

CO 1 To gain knowledge of MS Word, Excel, Access and Power point.

CO 2 To apply acquired knowledge in office automation tasks. To study various methods of formatting of and use of spreadsheets.

Co 3 To develop and enhance presentation skills using power Point

B.COM COMPUTER APPLICATION

COMPUTER FUNDAMENTAL (OPEN ELECTIVE)

On the Completion of this course student will be able –

CO 1 To understand the fundamental of computer

CO 2 To Use computer in his daily life as well as can assigned official work with ease.

CO 3 Troubleshoot, issues related working with computer and internet

CO 4 To communicate through internet as well as can use IT for a day to day work.

PERSONALITY DEVELOPMENT (VOCATIONAL COURSE)

After studying this course the Student will be able to

Course learning outcomes (CLO)

CO 1 To cultivate skills for successful life and learn to handle failures

CO 2 To learn the process of goal setting and SWOT analysis

CO 3 To understand the importance of time and stress management to develop core skills for employability

CO 4 To develop effective communication skills

CO 5 To realize the role of technology in personality development

ACCOUNTING AND TALLY (VOCATIONAL)

After studying this Course, the Student will be able to-

CO 1 Understand the elements of electronic accounting process

CO 2 Apply the basics of accounting with the help of sophisticated software like Tally

CO 3 Create a company, Ledger and Group creation, stock group, Stock items, Stock units formation, various Vouchers Entry, etc in tally software

CO 4 Make adjustment entries through Tally and produce financial statements like P&L account, Balance Sheet etc.

CO 5 Develop Skills to prepare account manually and computerized.

ENVIRONMENT EDUCATION (FOUNDATION COURSE)

- CO 1 To understand various aspects of life forms, ecological processes, and the impacts on them by the human during Anthropocene era.
- CO 2 To build capabilities to identify relevant environmental issues, analyze the various underlying causes, evaluate the practices and policies, and develop framework to make inform decisions.
- CO 3 To develop empathy for all life forms, awareness, and responsibility towards environmental protection and nature preservation.
- CO 4 To develop the critical thinking for shaping strategies such as: scientific, social, economic, administrative & legal. Environmental protection, conservation of biodiversity. Environmental equity and sustainable development.
- CO 5 To prepare for the competitive exams.

B.Com II Year
(Course Outcome)

PAPER I CORPORATE ACCOUNTING (MAJOR-I)

After completion of the course, learners will be able to:

- CO 1 An understanding of the regulatory environment in which the companies are formed and operate
- CO 2 A solid foundation in accounting and reporting requirements of the Corporations Act and Accounting Standards
- CO 3 Describe the rationale, merits, and demerits of issuing bonus shares for a company.
- CO 4 Prepare financial statements (Profit & Loss Account, Balance Sheet, etc.) using online software.
- CO 5 Prepare balance sheet after Internal Reconstruction of company;
- CO 6 Analyze the case study of major amalgamations of companies in India.
- CO 7 Describe the process of e-filing of annual reports of companies.

PAPER II COST ACCOUNTING (MAJOR-II)

- CO 1 This subject of cost accounting is very important to make the student of Commerce subject self-reliant, students from its study: 1. Know the principles, concepts, benefits, utility of cost accounting
- CO 2 In the event of setting up your own industry, being self-sufficient in cost accounting, you will be able to acquire knowledge of the methods of material issue, control and labor payment.
- CO 3 Will be expert in finding out unit cost, finding tender price, finding contract cost and finding profit
- CO 4 Develop decision making ability through marginal cost analysis, standard cost analysis
- CO 5 Will be able to get employment as a cost analyst in small, big business Houses.

PAPER III BUSINESS STATISTICS (MINOR)

At the end of the course, students should be able to:

- CO 1 Apply a basic knowledge of statistics to business disciplines;
- CO 2 Develop the ability to analyze and interpret data to provide meaningful information to assist in management decision making activities;
- CO 3 Apply appropriate graphical and numerical descriptive statistics for different types of data;
- CO 4 Apply probability rules and concepts relating to discrete and continuous random variables to answer questions within a business context;
- CO 5 Explain and interpret a variety of hypothesis tests to aid decision making in a business context;
- CO 6 Use simple/multiple regression models to analyze the underlying Relationships between the variables.

PAPER IV APPLIED ECONOMICS (ELECTIVE FOR COMMERCE)

On successful completion of this course, students will be able to:

- CO 1 Demonstrate a solid understanding of the core concepts and tools of economics.
- CO 2 Relate basic economic theory and principles to current economic issues And evaluate related public economic policies.
- CO 3 Apply economic principles and reasoning to solving business problems.
- CO 4 Interpret charts, graphs, and tables and use the information to make informed judgments.
- CO 5 Communicate their knowledge and understanding of economic issues using written, verbal and visual expression.
- CO 6 Critically reflect on the broader social consequences of economic Decision making.

B.COM COMPUTER APPLICATION

WEB DESIGNING

Knowledge of basic computer hardware & software. On the completion of this course students will be able

CO 1 To define the basics in web design.

CO 2 To visualize the basic concept of HTML.

CO 3 To recognize the elements of HTML.

CO 4 To introduce basics concept of CSS.

CO 5 To introduce basics concept of JavaScript.

CO 6 To develop the concept of web publishing.

CO 7 To design a working webpage.

B.COM FOUNDATION COURSE

ENTREPRENEURSHIP DEVELOPMENT

This course introduce the students to the basics of entrepreneurship and small business management Students gain an understanding of how to establish and manage a small business.

CO 1 Help in building the skills, framework and knowledge of entrepreneurship and new venture creation.

CO 2 Helps the students in understand the importance of the planning process and learn how to develop, write and present an effective business plans for a new venture.

B.Com III Year

Paper I : Income Tax law and Practices

- CO1- To familiar with the computation of capital gain
- CO2- To familiar with the computation of income from other sources
- CO3- To know about the aggregation of income and deduction u/s 80C to 80U
- CO4- To know about the assessment of individuals
- CO5- To aware about the income tax authorities and their powers and duties.

Paper II : Goods and Service Tax

- CO1- To provide knowledge about goods service tax
- CO2- To create employability to the students in the commercial tax practices
- CO3- To understand the procedure for registration, payment and refund of GST
- CO4- To know tax related with movement of goods
- CO5- To understand the appeals, offences and penalties with respect to GST

Paper III : Management Accounting

- CO1- To understand the basic concepts of management accounting
- CO2- To understand the analysis of financial statements by using various methods
- CO3- To enable the students to understand different ratios used for analyzing financial Statements
- CO4- To helps the students to prepare fund flow statement for the business organization
- CO5- To helps the students to prepare the cash flow statement required for the business

Paper IV : Auditing

- CO1- To acquaint themselves about the concepts and principles of auditing , auditing process and the objectives of auditing
- CO2- To familiarize with basic terms used in auditing
- CO3- To know more about internal control and internal check system
- CO4- To understand the duties and liabilities of a company auditor
- CO5- To get knowledge about preparation of audit report
- CO6- To understand more about government audit , audit of charitable and educational organizations, hospitals, clubs etc.

Paper V : Principles of Marketing

- CO1- Identify evidence of marketing in everyday life
- CO2- Demonstrate a clear understanding of the marketing concept

- CO3-Describe the role of marketing in building and managing customer relationships
- CO4-Evaluate how marketing strategies align with corporate strategies
- CO5-Explain the inputs and components of a marketing strategy
- CO6-Show how common analytic tools are used to inform the organization's strategy

Paper VI : International Marketing

- CO1-Classify strategies for entering export markets from extant knowledge and research
- CO2-Apply core theoretical concepts in international marketing to find practical solutions to constraints of small businesses
- CO3-Differentiate the merits of varied solutions in the profession of marketing and business development
- CO4-Synthesise feedback obtained from real world critique and evidence gathered from different sources to address problems related to international marketing
- CO5-Propose revised strategies and marketing communications to enter diverse international markets
- CO6-Improve professional experience through an evidence-based approach to decision making in the domain of international marketing
- CO7-Reflect on the significance of international marketing in the future direction of global business developments

B.COM COMPUTER APPLICATION

Digital Marketing

- CO 1 Understand digital marketing, importance thereof, meaning of web site and levels of web site, difference between blog, portal & website.
- CO 2 Understand the working of SEO (search engine optimization) on page optimization, off page optimization, and will learn to prepare reports
- CO 3 Learn about SMO (social media optimization) like Face book, twitter, LinkedIn, Tumblr, Pinterest and other social media services optimization
- CO 4 Understand paid tools like Google ad words, display advertising techniques
- CO 5 Learn and apply hands on experience on tools useful to SEO for analysis on website traffic, keyword analysis and learn email marketing and ad designing.

B.COM COMPUTER APPLICATION

WEB DESIGNING

Knowledge of basic computer hardware & software. On the completion of this course students will be able

CO 1 To define the basics in web design.

CO 2 To visualize the basic concept of HTML.

CO 3 To recognize the elements of HTML.

CO 4 To introduce basics concept of CSS.

CO 5 To introduce basics concept of JavaScript.

CO 6 To develop the concept of web publishing.

CO 7 To design a working webpage.

B.COM COMPUTER APPLICATION

BASIC COMPUTER (FOUNDATION COURSE)

On the Completion of this course student will be able –

CO 1 To Use computer in his daily life as well as can assigned official work with ease.

CO 2 Troubleshoot, issues related working with computer and internet

CO 3 To communicate through internet as well as can use IT for a day to day work.

B.Sc. Botany
(Course Outcome)

B.Sc. First year

Paper I : Applied Botany

- CO1: Understood the significance and role of botany
- CO2: Learnt the basic aspects of applied botany.
- CO3: Gained knowledge about employment opportunities in field of botany.
- CO4: Gained knowledge about start up opportunities in the field of botany.
- CO5: Learnt about opportunities of social services
- CO6: Gain knowledge about best health practices.

Paper II : Basic Botany

- CO1: This course will help the student to understand the diversity of plants and evolutionary process in plant kingdoms.
- CO2: It gives an accounts of plant adaptations from aquatic condition to colonize terrestrial habitat.
- CO3: The changes in morphological, anatomical and reproductive structures that propel plant evolution can be investigated.
- CO4: The economic importance and significance of plants in nature will be understood.
- CO5: They will be acquainted with locally prevalent microbial diseases of plants and humans.

B.Sc. Second Year

Paper I : Plant Anatomy & Embryology

- CO1: Students will learn the internal structure of plants. It will enhance the basic understanding of organization of plant body by cells and tissues.
- CO2: Students will understand the dynamic mechanism of plant pollination, fertilization and development.
- CO3: They will have hands on training on section cutting, preparation of slides, study of pollen and ovules.

Paper II : Industrial Botany

- CO1: This course will provide knowledge on plants and their parts used in various industries.
- CO2: Students will get an idea to establish plant based antural product industry.
- CO3: This course will make the students self- reliant.

B.Sc. Third Year

Paper I : Plant Physiology & Biochemistry

- CO1: To study the vital activities in plant and study of various metabolic activities in plants
- CO2: To know about absorption, translocation and utilization of water and other minerals
- CO3: To understand changes during growth process (germination to senescence)
- CO4: To understand various photosynthetic and respiratory cycles
- CO5: To gain knowledge on biomolecules
- CO6: To study the behavior of plants under various environmental conditions
- CO7: To provide in depth understanding on the various laws governing the physiology of plants.

CO8: To enhance the knowledge on physiology and biochemical aspects through series of experiments

Paper II : Cell Biology, Genetics and Biotechnology

CO1: Students will understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles

CO2: Students will understand how these cellular components are used to generate and utilize energy in cells

CO3: Students will understand the cellular components underlying mitotic cell division

CO4: To understand the basic unit of the organism.

CO5: To differentiate the organisms by its cell structure.

CO6: To know Components of the Cell and their division.

CO7: To explain the arrangement of Genes and their interaction.

CO8: To describe the influence of environment on gene expression.

CO9: To understand extra nuclear inheritance, linkage & crossing over

Govt. College, Nagda

B.Sc. Chemistry

(Course outcome)

B.Sc. First year

Paper I : Fundamentals of Chemistry

CO1: Students should be able to understand ancient Indian chemical techniques and various theories and principles applied to reveal atomic structure.

CO2: Students should be able to understand significant of quantum numbers.

CO3: Students should be able to understand concepts of periodic properties of elements and theories related to chemical bonding.

CO4: Students should be able to understand acid base concept, Ph, buffer and factors responsible for reactivity of organic molecules.

CO5: Students should be able to understand basics and mechanism of chemical kinetics and properties of electrolytes.

Paper II : Analytical Chemistry

CO1: Students should be able to understand basic concepts of mathematics for chemists.

CO2: Students should be able to understand fundamentals of analytical chemistry and steps involved in analysis.

CO3: Students should be able to understand basic knowledge of computer for chemists and basic concepts of chemical equilibrium.

CO4: Students should be able to understand principles of chromatography and chromatographic techniques.

CO5: Students should be able to understand various techniques of spectroscopic analysis

B.Sc. Second Year

Paper I : Reactions, Reagents and Mechanisms in organic chemistry

CO1: Students should be able to understand various organic reactions, reagents and their mechanisms, which will be helpful in understanding organic synthesis.

CO2: Students should be able to understand application of the reactions in the various industries like pharmaceutical, polymer, pesticides, textile, dyes etc.

CO3: Students should be able to understand important key reactions used in further study and research work.

Paper II : Transition elements, Chemi-energetics, Phase Equilibria

CO1: Students should be able to understand introductory idea about traditional Indian chemistry

CO2: Students should be able to understand Chemistry of d= & f-block elements, basic concepts of coordination chemistry.

CO3: Students should be able to understand stereochemistry of transition metal complexes.

CO4: Students should be able to understand laws of thermodynamics.

CO5: Students should be able to understand concept of phase equilibrium with reference to solid solution, Liquid-Liquid mixtures, partially miscible liquids.

CO6: Students should be able to understand basic concepts of electrochemistry.

B.Sc. Third Year

Paper I : Physical chemistry

By the end of this course students will be able to explain:

CO1: Introduction about elementary quantum mechanisms and nuclear orbital theory.

CO2: Spectroscopy introduction types.

CO3: Raman Spectrum and Selection rules.

CO4: About photo chemistry and laws of photo chemistry.

CO5: Basic concepts of physical properties.

Paper II : Inorganic Chemistry

By the end of this course students will be able to explain:

CO1: Introductory about hard and soft acids silicons and phosphogenes.

CO2: Metal ligand bonding in transition metal complexes.

CO3: Magnetic properties of complexes.

CO4: Electronic spectra of complexes.

CO5: Basic concepts of bio inorganic chemistry.

Paper III : Organic Chemistry

By the end of this course students will be able to explain:

CO1: Organo metallic compounds application of organometalic compounds.

CO2: Introduction about carbohydrates, differentiation between fats and oils.

CO3: Classification of amino acids, structure of peptide and proteins.

CO4: Concept of dyes and pericyclic reactions.

CO5: Introductory idea of NMR, PMR spectrometry of simple organic compounds.

Govt. College, Nagda

B.Sc. Physics (Course outcomes)

B.Sc First Year

Paper I Mathematical Physics and Strength of Materials

- CO 1 Students will be able to articulate and describe the Concept of scalar and vector field.
- CO 2 Students will be able to articulate and describe the Concept of Gradient, curl and divergence.
- CO 3 Students will be able to articulate and describe Gauss theorem, Stokes theorem and Green's theorem.
- CO 4 Students will be able to articulate and describe the Concept of angular momentum for combined motions, translation and rotation. Time taken by various objects of same mass, rolled over the inclined surfaces. Elasticity and various elastic constants
- CO 5 Students will be able to articulate and describe the Energy stored in a stretched wire.
- CO 4 Students will be able to articulate and describe the Linear and rotational quantities Concept of moment of inertia and how to determine the Moment of Inertia of various objects.

Paper-II, Heat and Thermodynamics & Statistical Mechanics

- CO 1 Students will be able to articulate and describe the Concept of thermodynamic systems, zeroth law of thermodynamics.
- CO 2 Students will be able to articulate and describe the Concept of thermodynamic processes.
- CO 3 Students will be able to articulate and describe the Real and perfect gases.
- CO 4 Students will be able to articulate and describe the Carnot theorem and Carnot engine.
- CO 5 Students will be able to articulate and describe the Clausius-Clapeyron's equations.

B. Sc. 2nd Year

Paper I: Optics

- CO 1 Students will be able to articulate and describe the Concept of Fermat's principle.

- CO 2 Students will be able to articulate and describe the Image theory for Lens systems.
CO 3 Students will be able to articulate and describe the Optical aberrations and dispersions.
CO 4 Students will be able to articulate and describe the Concept of interference and diffraction.
CO 5 Students will be able to articulate and describe the Newton's Ring, Fresnel's Biprism, Michelson Interferometer, Polarization of light.

Paper-II Electrostatics, Magnetostatics and Electrodynamics

- CO 1 Students will be able to articulate and describe the concept of Hysteresis, Soft and Hard magnets
CO 2 Students will be able to articulate and describe Concept of Electric field and electrostatic energy stored in electrostatic field
CO 3 Students will be able to articulate and describe the concept of Gauss theorem and its applications.
CO 4 Students will be able to articulate and describe the concept of Concept of electric potential and electric potential of various systems
CO 5 Students will be able to articulate and describe the concept of Method of electrical images and applications.
CO 7 Apply the Biot-Savert's law and Ampere's circuital law in some physical systems.
CO 8 Developing to ability of mathematical calculations while applying Biot-Savert law and Ampere's circuital law.

B. Sc. 3rd Year

Paper-I Quantum Mechanics & Molecular Spectra

- CO 1 Students will be able to articulate and describe the Concept of Black body radiation.
CO 2 Students will be able to articulate and describe the concept of Schrodinger equation.
CO 3 Students will be able to articulate and describe the concept of Hamiltonian operator, Potential step and Barrier.
CO 4 Students will be able to articulate and describe the Concept of spectrum and its various types, Stern-Garlech experiment, Fine lines, Zeeman effect, Stark effect, Hyperfine splitting Raman spectra-classical and quantum explanations
CO 5 Students will be able to articulate and describe the Microwave, infrared and ultraviolet spectrum of molecules Concept of nucleus and its properties.
CO 6 Students will be able to articulate and describe the Radiation and particle detectors

Paper II Solid State and Electronics

- CO 1 Students will be able to articulate and describe the concept Analysis of Crystal structure.
- CO 2 Students will be able to articulate and describe the concept of Crystal diffraction in different perspectives.
- CO 3 Students will be able to articulate and describe the concept of Thermal properties of Solids.
- CO 4 Students will be able to articulate and describe the concept of Band theory of solids
- CO 5 Students will be able to articulate and describe the concept of Specific heat: Dulong Petit, Einstein and Debye theory. Kirchhoff laws.
- CO 6 Students will be able to articulate and describe the concept of Diodes and Transistors.
- CO 7 Students will be able to articulate and describe-Field effect transistors, Mosfets and SCR.

Govt. College, Nagda

B.Sc. Zoology
(Course Outcome)

B.Sc. First Year

Paper I : Animal Diversity: Non Chordata

CO1: Students should be able to learn about the importance of systemic, taxonomy and phylogeny to get a concrete idea of evolution of non chordate phyla.

CO2: Students should be able to understand the various morphological, anatomical structures and functions of animals of different phyla.

CO3: Students should be able to get the knowledge about economic, ecological and medical significance of various animals in human welfare.

CO4: Students should be able to understand the important parasites and their control measures.

Paper II : Cell Biology, Reproductive Biology and Developmental Biology

CO1: Students should be able to develop deeper understanding of what life is and how it functions at cellular level.

CO2: Students should be able to understand the nature and basic concepts of cell biology, reproductive and developmental biology.

CO3: Students should be able to understand structure and functions of cell membrane and cellular organelles.

CO4: Students should be able to understand the importance of latest reproductive trends, reproductive techniques to be applied for human welfare.

CO5: Students should be able to understand the general patterns and sequential developmental stages during embryogenesis and understand how the developmental processes lead to establishment of body plan of multicellular organisms.

CO6: Students should be able to understand about the evolutionary development of various animals.

B.Sc. Second Year

Paper I : Diversity of Chordates and Comparative Anatomy

CO1: Students should be able to understand chordate diversity of animals and their taxonomic position.

CO2: Students should be able to identify the morphological and anatomical features and basis of chordate classification.

CO3: Students should be able to know economic importance and present status that will develop positive attitude towards conservation of biodiversity.

CO4: Students should be able to differentiate the organisms belonging to different taxa by studying comparative anatomy.

CO5: The project, assignment will give them a flavour of research in studying biodiversity, taxonomy besides improving their writing skills and lay foundation of career in Zoology.

Paper II : Physiology and Biochemistry

CO1: Students should be able to understand how organs function at different levels i.e from cellular to system levels.

CO2: Students should be able to examine internal harmony of different body systems by learning inherent disorders and deficiencies which is needed to maintain good health.

CO3: Students should be able to understand functions of biomolecules and their role in metabolism by studying biochemistry.

CO4: Students should be able to develop a strong foundation for research and employability skills.

CO5: Students should be able to improve the student's perspective of health biology through deep study of physiology.

B.Sc III Year

Paper I : Genetics

CO1: Students should be able to understand basic concepts of genetics, laws of inheritance and central dogma of biology.

CO2: Students should be able to understand of genetic basis of evolution, human karyotyping and speciation.

CO3: Student should be able to explain Mendel's law, transcription and translation processes.

CO4: Students should be able to explain that genetic engineering involves the extraction of genes from one organism and placing them into another organism.

Paper II : Ecology and Applied Zoology

CO1: Student should be able to explain distribution of fauna in different zones interaction

CO2: Student should be able to understand Animal behaviour and response of animals to different instincts.

CO3: Students should be able to explain interaction of biota, abiota and various kinds of animal adaptations.

CO4: Students should be able to understand concepts of fisheries, fishing tools and site selection, Aqua culture systems, induced breeding techniques, post harvesting techniques .

CO5: Students gain imparts knowledge of beneficial and non-beneficial insects and how they interact with their environment, other species and humans

Course I-

1	Course Code	S1-MATH1T
2	Course Title	Algebra, Vector Analysis and Geometry (Paper 1)
3	Course Type	Core Course
4	Pre-requisite (if any)	To study this course, a student must have had the subject Mathematics in class 12 th .
5	Course Learning Outcomes (CLO)	<p>The course will enable the students to:</p> <ol style="list-style-type: none"> 1. Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, using the rank of matrix. 2. To find the Eigen values and corresponding Eigen vectors for a square matrix. 3. Using the knowledge of vector calculus in geometry. 4. Enhance the knowledge of three dimensional geometrical figures (eg. cone and cylinder).

Course II

1	Course Code	S1-MATH2T
2	Course Title	Calculus and Differential Equations (Paper 2)
3	Course Type	Core Course
4	Pre-requisite (if any)	To study this course, a student must have had the subject Mathematics in class 12 th .
5	Course Learning Outcomes (CLO)	<p>The course will enable the students to:</p> <ol style="list-style-type: none"> 1. Sketch curves in a plane using its Mathematical properties in the different coordinate systems of reference. 2. Using the derivatives in Optimization, Social sciences, Physics and Life sciences etc. 3. Formulate the Differential equations for various Mathematical models. 4. Using techniques to solve and analyze various Mathematical models.

Course III

1	Course Code	S2-MATH1T
2	Course Title	Abstract Algebra and Linear Algebra
3	Course Type	Major - 1
4	Pre-requisite (if any)	To study this course, a student must have had the subject Mathematics in Certificate Course or equivalent.
5	Course Learning Outcomes (CLO)	<p>The course will enable the students to:</p> <ol style="list-style-type: none"> 1. Recognize the algebraic structures as a group, and classify them as abelian, cyclic and permutation groups, etc. 2. Link the fundamental concepts of groups and symmetrical figures. 3. Analyze the subgroups of cyclic groups. 4. Explain the significance of the notion of cosets, normal subgroups, and quotient groups. 5. The fundamental concept of rings, fields, subrings, integral domains and the corresponding morphisms. 6. Analyse whether a finite set of vectors in a vector space is linearly independent. Explain the concepts of basis and dimension of a vector space. 7. Understand the linear transformations, rank and nullity, matrix of a linear transformation, algebra of transformations and change of basis. 8. Compute the characteristic polynomial, eigenvalues, eigenvectors, and eigenspaces, as well as the geometric and the algebraic multiplicities of an eigenvalue and apply the basic diagonalization result.

Course IV

1	Course Code	S2-MATH2T
2	Course Title	Advanced Calculus and Partial Differential Equations
3	Course Type	Major – 2/Minor/Elective
4	Pre-requisite (if any)	To study this course, a student must have had the subject Mathematics in Certificate Course or equivalent.
5	Course Learning Outcomes (CLO)	<p>The course will enable the students to:</p> <ol style="list-style-type: none"> 1. Understand many properties of the real line \mathbb{R} and sequences. 2. Calculate the limit superior, the limit inferior, and the limit of a bounded sequence. 3. Apply the mean value theorems and Taylor's theorem. 4. Apply the various tests to determine convergence and absolute convergence of an infinite series of real numbers. 5. Formulate, classify and transform partial differential equations into canonical form.

Course V

1	Course Code	S3-MATH1D
2	Course Title	Numerical Methods and Scientific Computation (Theory)
3	Course Type	Discipline Specific Elective (DSE) (Group-A, Paper-I)
4	Pre-requisite (if any)	To study this course, a student must have had the subject Mathematics in Diploma Course or equivalent.
5	Course Learning Outcomes (CLO)	The course will enable the students to: 1. Understand numerical methods to find the solution of a system of linear equations. 2. Compute interpolation value for real data. 3. Find quadrature by using various numerical methods. 4. Solve system of linear equations by using various numerical techniques. 5. Obtain solutions of ordinary differential equations by using numerical methods.

Course VI

1	Course Code	S3-MATH2D
2	Course Title	Elements of Discrete Mathematics (Theory)
3	Course Type	Discipline Specific Elective (DSE) (Group-A, Paper-II)
4	Pre-requisite (if any)	To study this course, a student must have had the subject Mathematics in Diploma Course or equivalent.
5	Course Learning Outcomes (CLO)	The course will enable the students: 1. Apply the Boolean algebra, switching circuits and their applications. 2. Minimize the Boolean Function using Karnaugh Map. 3. Understand the lattices and their types. 4. Graphs, their types and its applications in study of shortest path algorithms. 5. Test whether two given graphs are isomorphic. 6. Understand the Eulerian and Hamiltonian graphs. 7. Represent graphs using adjacency and incidence matrices.

Course VII

1	Course Code	S3-MATH2T
2	Course Title	Fundamentals of Boolean Algebra (Theory)
3	Course Type	Minor
4	Pre-requisite (if any)	To study this course, a student must have had the subject Mathematics in Diploma Course or equivalent.
5	Course Learning Outcomes (CLO)	The course will enable the students: <ol style="list-style-type: none">1. Using the Boolean algebra in logical problems.2. Minimize the Boolean Function using Karnaugh Map.3. Understanding the various logic gates.4. Applying the circuits in logical problems.

Course Outcome (M.Com.)

First semester

Paper I Management Concept

- CO 1 To acquire knowledge on Management.
- CO 2 To Understand the management concept.
- CO 3 To Familiarize with the different of management skill.
- CO 4 To acquire student with various technique of management.
- CO 5 To acquire knowledge of management.

Paper II Business Environment

- CO 1 To understand the meaning and importance of changing Business Environment.
- CO 2 To understand the significance of investment and role of multinational companies therein.
- CO 3 To make aware of regulation of foreign trade practices in area of globalization.
- CO 4 To know the importance of foreign exchange trade and various act governing foreign exchange.

Paper III Cost Analysis and Control

- CO 1 To understand the concept of costing and related terms.
- CO 2 Two familiarity with the estimation and controlling of material cost controlling of labour cost estimation of overhead cost and repair cost sheet.

Paper IV Advanced Accounting

- CO 1 To make the students to understand recent trend in accounting.
- CO 2 To acquire the skill to prepare type of account it has given inside into the basic of accounting concept.

M.Com Second Semester

Paper I Corporate Legal Framework

- CO 1 To understand the rules governing Indian corporate.
- CO 2 To know the legal provisions of the laws relating to business.

Paper II Organisation Behaviour

- CO 1 To understand the conceptual framework of organisation behaviour.

- CO 2 to stimulate the students for meaning full of behavioral proper realization of human behavior in organization.

Paper III Advance Statistical Analysis

The object of the course is to make students learn the applications of statistical tools and techniques for decision making.

Paper IV Functional Management

- CO 1 Objective of the course is to provide a sound understanding of the basic Principle of Functional Management.
- CO2 Principles of functional management and their application in the business and industries.

M.Com III Semester

PAPER 1 MANAGERIAL ECONOMICS

- CO 1 TO build a strong theoretical foundation of the subject for commerce and management students.
- CO 2 To develop managerial perspective to economic principal as it for making decision under given environmental constraints.

PAPER II TAX PLANNING AND MANAGEMENT

This course aims to making student conversant with the concept of corporate text planning and Indian tax low is also there implications for corporate management.

PAPER III ENTREPRENEURSHIP SKILL DEVELOPMENT

- CO 1 To understand the concepts function and growth of entrepreneurship
- CO 2 To understand the government policies for the growth of business industry etc

PAPER IV ACCOUNTING FOR MANAGERIAL DECISIONS

The objective of the course is to a acquaint student with the accounting concept , tools and techniques for managerial decision

M.COM IV SEMESTER

PAPER I DIRECT TAX IN INDIA

- CO 1 To understand the importance of
- CO 2 To know the vision
- CO 3 TO collect the basic concept and definitions of income tax act 1961
- CO 4 To familiar the computation of income

PAPER II BUSINESS TAXATION

CO 1 To know about the assessment of individual company firm etc.

PAPER III INDIRECT TAXATION

CO 1 Indirect taxes in India and overview constitutional power of taxation exciting tax structure

Paper IV sales and service tax

CO 1 Basic concept and overview of sales and service tax

CO 2 Institution framework of sales and service tax

Govt. College, Nagda

Foundation Course: Yoga and Meditation

Class: First Year(B.A./B.Sc./B.Com.)

Course learning outcomes	After studying this course, student will be able to: <ul style="list-style-type: none">• Take care of their own Physical Health.• Take care of their own Mental Health.• Take care of their own Emotional Health.• Take care of their own Social Health.• Take care of their own Spiritual Health.
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Govt. College, Nagda

Subject: Physical Education (Theory Paper)

Class: First Year(B.A./B.Sc./B.Com.)

Course learning outcomes	On completion of this course, learners will be able to: <ul style="list-style-type: none">• Know the Physical Education and Sports better and may excel in this area in their personal, Social and professional life.• The student will learn about the role of Physical Activity and Sports for Fitness, Health and Wellness and may adopt in their lifestyle and society.• They will understand the structure of Physical Education in India and international level specially about the role of United Nations International Children’s Emergency Fund (Unicef) concept “Sports for all.”• Student will be able to identify the health related and skill related components of fitness and will able to know the benefits of warming up and colling down and develop their concept regarding nutrition and balance diet.• This course will help the students to develop an awareness regarding the sports related events, persons and other related areas that will help them in competitive exam like Public Service Commission (PSC) exams.
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Subject: Physical Education (Practical Paper)

Class: First Year(B.A./B.Sc./B.Com.)

Course learning outcomes	On completion of this course, learners will be able to: <ul style="list-style-type: none">• Student will be able to demonstrate the exercises for developing fitness, warmup and cool down and able to explain the importance of warming up and cooling down for workout.• Student will able to conduct The American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) fitness test for others and will able to guide for fitness exercise.• Student will be able to measure Heart / Pulse Rate, Blood Pressure, Body Mass Index (BMI) and Body Fat Percentage and this will be useful at individual and community for assessment purpose.• They will learn to conduct recreational activities for community or can organise play day activity in their institution.• They will learn two games / sports that will help them to continue in their life and keep themselves fit and they will learn knowledge of major games.
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Subject: Physical Education (Theory Paper)

Class: Second Year

Course learning outcomes	On completion of this course, learners will be able to: <ul style="list-style-type: none">• Know the concept of health and about the development and assessment of health-related fitness.• Understand the govt fitness protocol for 5 to 18 years, 18 to 65 years and 65+ years people and able to assess their fitness.• Calculate the calories requirement of common man and athletes and able to guide people about nutritional guidelines.• Diagnose the common injuries and able to give first aid and help in the rehabilitation of these injuries.• Provide CPR in emergency cases which may be a lifesaving technique.• Develop general awareness about international sports, motivate to know more about sports and also prepare for competitive exams.
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Subject: Physical Education (Practical Paper)

Class: Second Year

Course learning outcomes	On completion of this course, learners will be able to: <ul style="list-style-type: none">• Measure body composition and other health related fitness.• Conduct fitness test for various age categories as per Govt. fitness protocol and norms.• Calculate daily calories requirement of person and able to guide the people about nutrition.• Provide first aid to people for common sports injuries.• Apply in emergency the CPR to the affected person and will be able to save life of people.
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Govt. College, Madhwa

PROGRAMME SPECIFIC OUTCOMES (PSO) For M.Sc. MATHEMATICS

After completing the two-year (4 semester) M.Sc. Mathematics Programme a student would have:

PSO1:	strong Foundation in Knowledge: Have strong foundation in core areas of Mathematics, and able to communicate Mathematics effectively.
PSO 2:	abstract Skills: Evaluate hypotheses, theories, methods, and evidence within their proper contexts
PSO3:	Skill in Problem Solving: Solve complex problems by critical understanding, analysis, and synthesis
PSO4:	proficiency in Interdisciplinary Skills: Select, interpret, and critically evaluate information from a range of sources that include books, scientific reports, journals, case studies and internet.
PSO 5:	skill in Application and Research Efficiency: Provide a systematic understanding of the concepts and theories of mathematics and their application in the real world- to an advanced level and enhance career prospects in a huge array of fields, viz. in industry, commerce, education, finance, and research.
PSO 6:	lifelong Practical Knowledge: Recognize the need to engage in lifelong learning through continuous education, and research leading to higher degrees like PhD, DSc etc.

COURSE OUTCOMES (COS): M.Sc. MATHEMATICS

Course I: ADVANCED ABSTRACT ALGEBRA –I:

After completing the course, a students would have:

CO1	the ability to understand the concept of Automorphism and Normal, Subnormal, and composite series and prove Jordan-Holder's Theorem.
CO2	explain Commutator subgroup, define Solvable series and solvable groups, and understands Central series and Nilpotent groups
CO3	understands Extension fields, roots of polynomials, define Algebraic and transcendental Extensions and define Splitting Fields, Separable and inseparable Extensions.
CO4	understands field, Perfect fields, Finite fields and define Algebraically closed fields
CO5	define Automorphisms of Extensions, state and prove Fundamental theorem of Galois theory and solve polynomial equations by radicals.

Course - II REAL ANALYSIS:

After completing the course students must be able to

CO:1	integrate functions of a real variable in the sense of Riemann – Stieltjes and understand Properties of integral.
CO:2	understand how to integrate vector valued functions, state and apply Riemann's theorem and understand the concept of pointwise and uniform convergence applied in Sequences and series of functions.
CO:3	understand Cauchy criterion for uniform convergence and how to apply Weierstrass M-test, Abel's and Dirichlet's test for uniform convergence and relation Between uniform convergence and continuity and understand uniform convergence and differentiation State Weierstrass approximation theorem.
CO:4	understand theorems on Power series, define linear transformations, apply chain rule in partial derivatives
CO:5	state the Implicit function theorem, Jacobians, understand how to compute Jacobians and its application to show variables are independent or dependent.

Course -III TOPOLOGY-I:

After completing the course students must be able to

CO:1	understand Countable and Uncountable sets, define Infinite sets and the Axiom of Choice, understand Cantor's theorem and the continuum hypothesis, and know about Zorn's lemma, Well ordering theorem.
CO:2	define Topological spaces with examples, understand Closed sets, Closure, Dense subsets, Neighbourhoods, Interior, exterior and boundary. Accumulation points und derived sets.
CO:3	define Bases and subbases, know about Subspaces and relative topology, Define Product Topology, Metric Topology.
CO:4	understand the definition of First and Second countable spaces, know about Covering and Lindelofs spaces, understands Separable spaces, second countability and Separability and known relation between them.
CO:5	understand the definition of Connected spaces, know about Connectedness on real line define Components, Path connectedness, locally connected spaces.

Course IV COMPLEX ANALYSIS-I:

After completing the course students must be able to:

CO:1	understand the concept of complex integration, state and use Cauchy's theorem, Cauchy's integral Formula to evaluate the complex integral and understand higher Order derivatives.
CO:2	understand How to apply Morera's theorem, Cauchy's inequality, state and use Liouville's theorem, state and use the fundamental theorem of Algebra and use Taylor's theorem for power series representation.
CO:3	state & apply Maximum modulus principle, Schwarz lemma, expand function using Laurent's theorem, classify singularities and poles, Explain the argument principle, and understand Rouché's theorem inverse function theorem.

CO:4	understand Mobius Transformations, define Fixed Points, Cross Ratio, understand Bilinear transformations, their properties, and classifications, define Conformal mappings and explain se conformal mappings and know about meromorphic functions.
CO:5	compute the residues and evaluate complex integrals using the residue theorem, understands Contour integration and define branches of many valued functions.

Course V: PROGRAMMING IN 'C'-I (OPTIONAL):

After completing the course students must be able to:

CO:1	understand programming languages and their purpose.
CO:2	understand C Essentials.
CO:3	differentiate between variables and constraints and how to use them in functions.
CO:4	understand different data types used in C.
CO:5	understand data type other than basic data types and how to types cost.

Course - VI : ADVANCED ABSTRACT ALGEBRA –II:

After completing the Course the students must be able to:

CO:1	understand definition of Module, sub module and how prove their problems, define Quotient Modules and theorems based on the concept of homomorphism
CO:2	understand different types of Modules and their relation between them and state Schur's Lemma.
CO:3	understand definition of Noetherian and Artinian modules and state Hilbert basis theorem and applications.
CO:4	understand Uniform, Primary Modules and understands Noether-Lasker theorem and its uses.
CO:5	understand Algebra of linear transformations, Characteristic roots, Similarity of linear transformations, Procedure of Reduction to triangular forms, Nilpotent transformations, Index of nilpotency and Invariants of a nilpotent transformation and state the primary decomposition theorem.

Course VII : LEBESGUE MEASURE AND INTEGRATION:

After completing the course students must be able to:

CO:1	understand Lebesgue outer measure, Measurable sets, Regularity. Measurable functions, results on Borel and Lebesgue measurability and define non-measurable sets.
CO:2	understand how to integrate non-negative functions and understand Integration of Series and results based on Riemann and Lebesgue integrals
CO:3	understand the concept of functions of bounded variation, Understands Lebesgue Differentiation Theorem, results of Differentiation and Integration.
CO:4	understand The L^1 spaces, Convex functions, Jensen's inequality, Hölder and Minkowski inequalities and how to apply Completeness of L^1 .
CO:5	understand how to find Dual of space, Convergence in Measure, Uniform convergence and almost uniform convergence and their relation.

Course – VIII: TOPOLOGY-II:

After completing the course students must be able to:

CO:1	understand Separation Axioms and their characterization, Urysohn's lemma and Tietze extension theorem.
CO:2	understand compactness, Sequentially and countably compact sets and their properties, Local Compactness and one point compactification and Stone-Cech compactification.
CO:3	define Tychonoff product and product spaces and understand use of Compactness and connectedness in product spaces, embedding lemma and Tychonoff embedding.
CO:4	understand nets and filters and example, Convergence of nets and filter and Ultrafilters and compactness.
CO:5	understand Homotopy of paths, The fundamental group, Covering spaces and The fundamental theorem of algebra.

Course – IX : COMPLEX ANALYSIS-II:

After completing the course students must be able to:

CO:1	understand Weierstrass' factorisation theorem, Gamma function and its properties, Riemann Zeta function and how to apply Riemann's functional equation
CO:2	understand Runge's theorem, Mittag-Leffler's theorem, analytic continuation, and uniqueness of direct analytic continuation and how to check uniqueness of analytic continuation along a curve.
CO:3	know about Schwarz Reflection principle, understands Monodromy theorem and its consequences and Harmonic functions on a disk.
CO:4	understands Harnack's inequality and theorem, Green's function, Canonical products, Jensen's formula. Poisson - Jensen formula, Hadamard's three circles theorem, Order of an entire function, Exponent of Convergence.
CO:5	understand the range of an analytic function, Bloch's theorem, The little Picard theorem. Schottky's theorem and Montel Caratheodary and great Picard theorem.

Course X :PROGRAMMING IN 'C'-II (OPTIONAL):

After completing the course students must be able to :

CO:1	understand Control flow structure of programme using loops.
CO:2	understand the use of Break and continue statement and the goto statement infinite loops.
CO:3	understand all the types of Operators which can be used in C Programming.
CO:4	understand different derived variables & storage classes
CO:5	understand the Register Specifier Structures and Unions.

Course - XI: INTEGRATION THEORY AND FUNCTIONAL ANALYSIS-I:

After completing the course students must be able to:

CO:1	understand signed measure, mutually singular measure, Hahn decomposition theorem, Radon Nikodim theorem, State Lebesgue decomposition and Riesz representation theorem.
CO:2	understand Outer measure, product measures, theorems related to them: Extension theorem, Caratheodory theorem & Fubini's theorem.
CO:3	understand Normed linear spaces, Completeness, Banach Space, Finite dimensional Normed Spaces and Subspaces and definition of Quotient Normed linear space.
CO:4	learn about Compactness and finite dimension, Linear Operators, Bounded and Continuous Linear Operators.
CO:5	understand Linear Functionals, Linear Operators and functional on finite dimensional Spaces and Normed Spaces of Operators and Dual Space.

Course : XII :ADVANCED SPECIAL FUNCTION-I:

After completing the course students must be able to:

CO:1	understand Gamma and Beta Functions and Mascheroni Constant.
CO:2	learn about how to find value of Beta function, understand Legendre's duplication formula, and Gauss multiplication theorem.
CO:3	understand Hypergeometric and Generalized Hypergeometric functions.
CO:4	understand Contiguous function relations and Hyper geometrical differential equation and its solutions.
CO:5	understand Elementary series manipulations, Simple transformation, relations between functions of z and $1-z$.

Course – XIII : OPERATIONS RESEARCH-I: (OR-I)

After completing the course students must be able to:

CO:1	understand the Origin & development of OR Necessity of OR in Industry, Case studies of OR. Model in OR, Main Face of OR uses and limitation of OR, Scope of OR, Role of OR in decision making.
CO:2	understand the procedure to formulate LPP, Graphical Solution Method. Graphical Solution in some exceptional cases, Slack and Surplus Variables, Limitation of L.P.P.
CO:3	understand simplex method artificial variable techniques, Big M method, two phase Method, Problem of degeneracy, it is used in data envelopment, It has strong ties to computer science and analytics.
CO:4	understand the fundamental properties of Duality, theorem of Duality.
CO:5	understand Solution of Transportation problem using North - West corner rule, Row minima, Column Minima, Matrix Minima, and VAM, apply optimality test for the initial Feasible solution, Degeneracy in T.P., Hungarian Method for assignment Problem and unbalanced assignment Problem.

Course-XIV : INTEGRAL TRANSFORM-I (OPTIONAL):

After completing the course students must be able to

CO:1	calculate the Laplace transform of standard functions both from the definition and by using tables, use the appropriate shift theorems in finding Laplace and inverse Laplace transforms.
CO:2	understand Laplace equations and its solution, learn about the required conditions for transforming variable or variables in functions by the Laplace transform.
CO:3	understand Laplace's wave equation and its solution under each case, learn about the application of Laplace transform in engineering analysis.
CO:4	understand how to use of available Laplace transforms tables for transformation of functions and the inverse transformation. Learn about use partial fraction and convolution methods in inverse Laplace transforms and application of Laplace transforms to solve ordinary and partial differential equations.
CO:5	learn about how to apply Laplace transforms to solve Heat conduction equation.

Course XV : FUNDAMENTALS OF COMPUTER SCIENCE-I (OPTIONAL):

After completing the course students must be able to:

CO:1	understand Object Oriented Programming Paradigm and Basic Concepts, Benefits and Applications of Oriented Programming.
CO:2	write a simple program in C++, Tokens, Keywords, Identifiers and Constants, Basic Data Types, User-Defined Data Types, Derived Data Types, Variables, Operators in C++, Expressions, Implicit Conversions.
CO:3	understand Operator overloading, Operator Precedence, Control Structure and know about Statements and uses.
CO:4	understand functions in C++ and their purpose.
CO:5	understand Classes and Objects.

Course XVI : FUNCTIONAL ANALYSIS- II:

After completing the course students must be able to

CO:1	understand Hahn-Banach theorem, Hahn-Banach theorem for complex vector space and Definition & problem based on Normed spaces, Reflexive spaces. Category Theorem and Uniform boundedness theorem.
CO:2	understand on Strong and Weak convergence, Open mapping Theorem, Closed Graph theorem, Closed range theorem.
CO:3	understand what Inner product spaces is, Hilbert space, Properties of IPS, Definition of Orthogonal sums and direct sums.
CO:4	understand Complete Orthonormal sets and Bessel's Inequality, Convergence Theorems, Fourier coefficients, Total Orthonormal sets and sequences Parseval's Relation, Riesz representation theorem.
CO:5	understand Riesz theorem, Definition of Hilbert adjoint operator, self-adjoint operators, Unitary operators and Normal operators.

Course-XVII : ADVANCED SPECIAL FUNCTION-II:

After completing the course students must be able to

CO:1	understand Bessel' differential equation and Generating function of $J_n(x)$, Express poly as Legendre polynomials, Bessel's integral with index half and an odd integer.
CO:2	understand Generating function of Legendre's polynomials Rodrigues's formula, Hypergeometric forms of $P_n(x)$, Orthogonality.
CO:3	understand Some special Properties of $P_n(x)$, Laplace's first integral form and Orthogonality.
CO:4	understand Hermite Polynomials $H_n(x)$, Recurrence relation and Rodrigue's Formula, Orthogonality.
CO:5	understand Laguerre Polynomials $L_n(x)$, Generating Functions, Rodrigue's Formula, Orthogonality, Other generating function.

Course XVIII OPERATION RESEARCH-II:

After completing the course students must be able to:

CO:1	understand Network analysis, constraints of network, Critical Path method (CPM), PERT calculation, Resource Levelling by Network Techniques, and advances of network.
CO:2	know about Dynamic Programming, Understands Integer programming How to apply Gomory's all I.P.P.method, Branch and Bound Technique.
CO:3	understand game theory, two-person zero sum games understand Maximin-Minimax principle Games without saddle point Graphical solution of $2 \times n$ and $M \times 2$ games. Solution of Linear Programming.
CO:4	understand how to formulate nonlinear programming, Kuhn- Tucker condition, Non-negative constraints.
CO:5	understand Wolfe's Modified, simplex method, Beale's Method for Quadratic programming Scrabble programming, convex programming

Course XIX : INTEGRAL TRANSFORM-II (OPTIONAL):

After completing the course students must be able to

CO:1	use various methods to compute Laplace transform and solve Boundary Value Problems by using Laplace transform.
CO:2	understand Electric circuits and Application of beams.
CO:3	understand definition of complex fourier transform, application of Inversion formula, compute fourier cosine and sine transform and Application of Fourier transforms to solve differential and integral equation as well as many areas in science & Engineering.
CO:4	understand Various properties of fourier transform, Convolution theorem and its uses and prove Parseval's identity.
CO:5	compute fourier transform of derivative of function, understand Finite fourier sine & cosine transform and understands Inversion, Operational and combined properties.

Course XX : FUNDAMENTALS OF COMPUTER SCIENCE-I (OPTIONAL):

After completing the course students must be able to

CO:1	understand Inheritance, single. Multilevel, Multiple, Hierarchical, Hybrid Inheritance, Templates.
CO:2	use C++ streams, write functions, Expressions, Implicit conversions.
CO:3	understand Role of Database and Database systems architecture.
CO:4	understand SQL- Basic features, Integrity key, functional dependency, multi -valued functional dependency, Database design- normalization up to BCNF.
CO:5	understand Operating Systems-User interface, Memory management and Network and distributed Systems