

## **COURSE OUTCOMES**

### **Undergraduate Courses**

#### **Name of Program: B.A.**

#### **Program Outcomes**

- The students acquire knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible enough.
- The B.A. graduates will be acquainted with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking.
- The program also empowers the graduates to appear for various competitive examinations or choose the post graduate Program of their choice.
- The B. A. program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.
- The students will be ignited enough to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.
- Program provides the base to be the responsible citizen.

#### **English**

#### **Program Specific Outcomes**

B.A. (English) aims at making the student proficient in:

- Major and minor forms of literature.
- Enjoying language and literature- short stories, poems, novels and dramas.
- Appreciating literary works.
- Grammar- semantic and syntactic structures and vocabulary.
- English in formal and informal situations.
- Creative writings.
- Understanding different cultures and times.

| Semester-I           |  |
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| Paper: EN-01 English | <ul style="list-style-type: none"><li>• The course offered in BA 1 aims to shape the delicate minds of the newcomers towards being sensitive, sensible with critical bent of mind and acquiring the basics of language through the book —English Literature and Language I.</li><li>• Empower the students to improve the vocabulary which in turn helps to improve the comprehension of the students.</li><li>• A brief analysis of the essays in the texts would help the students in comprehending the historical, political,</li></ul> |

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|                      | religious, intellectual, scientific, emotional and cultural aspects of one's societal life on the whole.  |
| Semester-II          |   |
| Paper: EN-02 English | <ul style="list-style-type: none"> <li>• The students get a detailed knowledge and practice into formation and structuring of sentences, voices and various facets of grammar</li> <li>• Stories included in the text help to develop the emotional quotient of the students towards animals and fellow human beings.</li> <li>• The conclusion of this semester will help the beneficiaries to develop oratory and writing skills along with good vocabulary understanding.</li> </ul>             |
| Semester-III         |   |
| Paper: EN-03 English | <ul style="list-style-type: none"> <li>• The student demonstrates an increase in awareness of word knowledge, vocabulary, sentence formations, and grammatical rules.</li> <li>• The poetry enhances the students understanding of various elements of poetry such as tone, diction, genre, figures of speech, symbolism and many more.</li> <li>• They are able to demonstrate text structuring and organization of the same into paragraphs.</li> </ul>   |
| Semester-IV          |   |
| Paper: EN-04 English | <ul style="list-style-type: none"> <li>• The conclusion of the course will enable the students to incorporate personal experiences that can be used for creative writings.</li> <li>• They are able to demonstrate text structuring and organization of the same into paragraphs.</li> <li>• The end of the course will enable the students to use the grammatical structures, translations from Hindi to English and English to Hindi accurately and systematically in a proper manner.</li> </ul> |
| Semester-V           |   |
| Paper: EN-05 English | <ul style="list-style-type: none"> <li>• It will provide better understanding of various age-old social evils that still plague the society and need an urgent redressal.</li> <li>• Dramatic and vivid description of the events depicting real issues at the heart of freedom movement will provide better understanding and also inculcate patriotic feelings and gratitude for the sacrifice and contribution of common man.</li> </ul>   |

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|                      | <ul style="list-style-type: none"> <li>• It will familiarize the students with various literary forms.</li> <li>• It will help students in their critical thinking process and enhance their reading and writing skills.</li> </ul>  |
| <b>Semester-VI</b>   |  |
| Paper: EN-06 English | <ul style="list-style-type: none"> <li>• William Shakespeare's The Merchant of Venice will familiarize the students with various nuances of plays of Shakespeare.</li> <li>• It will help them to have better understanding of the text and its themes. It will encourage them to appreciate and understand wider human issues that are still relevant in today's world.</li> <li>• It will familiarize them with cultural and historical context of the Shakespeare's play.</li> <li>• It will improve their comprehension and communication skills.</li> </ul> |

## **Hindi**

### **Program Specific Outcomes**

- हिंदी भाषा, व्याकरण, साहित्य का इतिहास, भारत की सामाजिक, राजनैतिक, आर्थिक, साहित्यिक एवं सांस्कृतिक पृष्ठभूमि की जानकारी।
- हिंदी साहित्य के प्रति रुचि तथा साहित्यिक अभिरुचियों का विकास।
- क्षेत्रीय एवं लोक साहित्य के प्रति संवेदनशीलता का विकास।
- कविता, कहानी, लघुकथा व नाटक साहित्य का ज्ञान।
- पठन, पाठन, लेखन व श्रवण की क्षमता व कौशल का विकास।

### **Course Outcomes**

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| बी.ए. प्रथम सत्र | <ul style="list-style-type: none"> <li>• निर्धारित पाठ्यपुस्तक मध्यकालीन काव्य कुंज के माध्यम से भक्ति की दोनों काव्य धाराओं निर्गुण एवं सगुण का ज्ञान वह अनुभूति तथा अभिव्यक्ति गत सौंदर्य की जानकारी।</li> <li>• हिंदी साहित्य का प्रथम कालखंड 'आदिकाल' के माध्यम से आदिकालीन साहित्य की जानकारी तथा राजनैतिक, सामाजिक, आर्थिक, धार्मिक, साहित्यिक एवं सांस्कृतिक परिस्थितियों का ज्ञान।</li> </ul> |
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|                    | <ul style="list-style-type: none"> <li>• काव्यशास्त्र एवं काव्यांग के माध्यम से काव्य का स्वरूप, भेद, तत्व, काव्य गुण, शब्द शक्ति रस, छंद और अलंकार की जानकारी।</li> </ul>  |
| बी.ए. द्वितीय सत्र | <ul style="list-style-type: none"> <li>• ध्रुवस्वामिनी नाटक जयशंकर प्रसाद के माध्यम से नाटक व रंगमंच की जानकारी एवं प्रसाद जी की नाट्य कला से परिचय।</li> <li>• मध्यकालीन काव्य धाराओं संतकाव्य, परंपरा, सूफीकाव्य धारा, राम काव्य एवं कृष्णकाव्य से परिचय व सगुण निर्गुण काव्यधाराओं की विशेषताओं की जानकारी।</li> <li>• भाषा, बोली, मानकभाषा, राजभाषा, राष्ट्रभाषा, मातृभाषा, माध्यम भाषा के माध्यम से भाषा के विविध रूपों की जानकारी व हिंदी वर्तनी का ज्ञान।</li> <li>• नाटक में अभिनय के प्रति रुचि और भाषा की समझ को छात्राओं में विकसित किया गया।</li> </ul> |
| बी.ए. तृतीय सत्र   | <ul style="list-style-type: none"> <li>• 'आधुनिक हिंदी कविता' के माध्यम से आधुनिक कवियों की रचनाओं भाव, भाषा व शैली की जानकारी।</li> <li>• 'रीतिकालीन हिंदी साहित्य' में रीतिकाल की परिस्थितियों, विशेषताओं व रीति सिद्ध रीतिबद्ध तथा रीतिमुक्त कवियों के काव्य का परिचय तथा विशेषताएं।</li> <li>• कंप्यूटर की जानकारी, स्वरूप का महत्व, ईमेल इंटरनेट की उपयोगिता का ज्ञान। मशीनी अनुवाद व अनुवाद की प्रक्रिया की जानकारी।</li> </ul>   |
| बी.ए. चतुर्थ सत्र  | <ul style="list-style-type: none"> <li>• पाठ्य पुस्तक, कथाक्रम के माध्यम से हिंदी साहित्य के प्रमुख कहानी कारों की कहानियों को पढ़कर उनकी गद्य लेखन क्षमता, शैली की जानकारी व नैतिक तथा सामाजिक मूल्यों की शिक्षा प्राप्त हुई। रचनात्मक कौशल का विकास।</li> <li>• हिंदी साहित्य की आधुनिक कालीन गद्य विधाओं का क्रमिक विकास।</li> <li>• पारिभाषिक शब्दावली की आवश्यकता और उसका महत्व विषय की जानकारी।</li> </ul>  |
| बी.ए. पंचम सत्र    | <ul style="list-style-type: none"> <li>• 'समकालीन हिंदी कविता' काव्य संग्रह के माध्यम से विद्यार्थियों ने समकालीन कवियों की रचनाओं को पढ़ने व समझने का अवसर</li> </ul>  |

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|                                    | <p>मिला। समकालीन विचारधारा, चिंतन व शैली का परिचय।</p> <ul style="list-style-type: none"> <li>• आधुनिक कालीन काव्य धारा व युगों से विद्यार्थियों का परिचय भारतेंदु युग, द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद, नई कविता, समकालीन कविता की पृष्ठभूमि एवं विशेषताओं की जानकारी।</li> <li>• छंद मुक्त कविता लिखने में विद्यार्थियों की रुचि। पत्र लेखन के अंतर्गत औपचारिक व अनौपचारिक पत्रों के प्रारूपों की जानकारी।</li> <li>• संक्षेपण व पल्लवन का परिचय तथा रचनात्मक लेखन में रुचि।</li> </ul> |
| बी.ए. षष्ठम सत्र                   | <ul style="list-style-type: none"> <li>• नव्यतर गद्य गौरव निबंध संग्रह के माध्यम से विद्यार्थियों ने निबंध के विभिन्न भेदों तथा निबंध कारों की निबंध कला से परिचय।</li> <li>• हरियाणवी भाषा एवं हरियाणवी लोक साहित्य की विभिन्न विधाओं के अंतर्गत सांग परंपरा, कविता, कहानी, उपन्यास, नाटक, प्रहसन आदि की जानकारी।</li> <li>• पत्रकारिता के अंतर्गत पत्रकारिता के प्रति विद्यार्थियों की रुचि तथा पत्रकारिता का ज्ञान।</li> </ul>   |
| B. Sc. Hindi                       |   |
| बी.एस.सी तृतीय सत्र हिंदी ऐच्छिक   | <ul style="list-style-type: none"> <li>• 'आठ अर्वाचीन कवि' काव्य संग्रह के माध्यम से विद्यार्थियों का हिंदी के श्रेष्ठ कवियों से परिचय व काव्य का ज्ञान प्राप्त हुआ।</li> <li>• पत्र लेखन शैली का ज्ञान सरकारी, अर्ध सरकारी पत्र लेखन की जानकारी।</li> <li>• निबंध लेखन में आधुनिक संदर्भों की जानकारी।</li> <li>• वैज्ञानिक शब्दावली के माध्यम से विज्ञान के 50 शब्दों का हिंदी रूपांतर।</li> </ul>  |
| बी.एस.सी. चतुर्थ सत्र हिंदी ऐच्छिक | <ul style="list-style-type: none"> <li>• संस्मरण महादेवी वर्मा के माध्यम से हिंदी के प्रसिद्ध साहित्यकारों के जीवन के अनछुए पहलुओं को जानने का शुभ अवसर प्राप्त हुआ।</li> <li>• निबंध लेखन में विद्यार्थियों को अनेक समसामयिक विषयों की जानकारी।</li> <li>• पत्र-लेखन में रुचि तथा वैज्ञानिक शब्दावली का हिंदी अनुवाद।</li> </ul>   |

## Sanskrit

### Program Specific Outcomes

- संस्कृत भाषा समूह की एक बहुत समृद्ध भाषा है। प्राचीन भारतीय के बारे में जानने के लिए संस्कृत एक उचित माध्यम है।
- सामान्य डिग्री पाठ्यक्रमों को न केवल पेशेवर कौशल के लिए डिज़ाइन किया गया है, बल्कि एक गहरी समझ भी विकसित की है।
- विभिन्न संस्कृत ग्रंथों के माध्यम से भारत की समृद्ध विरासत और गतिशील प्रचलित परिदृश्य।
- प्राचीन भारतीय इतिहास, दर्शन और साहित्य की एक मजबूत अवधारणा विकसित करें।
- संचार कौशल बढ़ाना-सुनना, बोलना, पढ़ना, लिखना।

### Course Outcomes

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| Semester -I Sanskrit (Optional)   | <ul style="list-style-type: none"><li>• हितोपदेश - नैतिक मूल्यों का ज्ञान</li><li>• वाग्व्यवहार से संस्कृत में विचार संप्रेषण का ज्ञान</li><li>• सन्धि तथा शब्द रूप से संस्कृत भाषा का ज्ञान</li></ul>  |
| Semester –II Sanskrit (Optional)  | <ul style="list-style-type: none"><li>• दूतवाक्य द्वारा श्री कृष्ण के राजनैतिक ज्ञान एवं कौशल से विद्यार्थियों को परिचित कराना।</li><li>• शुकनासोपदेश द्वारा राजधर्म एवं राज्य के कर्तव्य से परिचित कराना।</li><li>• अनुवाद द्वारा बौद्धिक क्षमता को बढ़ाना</li></ul>   |
| Semester -III Sanskrit (Optional) | <ul style="list-style-type: none"><li>• वाग्व्यवहार से संस्कृत में संचार का ज्ञान</li><li>• रामायण बालकाण्ड- भगवान राम के जन्म तथा बाल्यकाल काल का ज्ञान</li><li>• तद्धित प्रत्यय का ज्ञान *हिन्दी से संस्कृत अनुवाद का ज्ञान</li></ul>   |
| Semester –IV Sanskrit (Optional)  | <ul style="list-style-type: none"><li>• भगवद्गीता, अध्याय - 2 -आत्म प्रबन्धन तथा निष्काम कर्म का ज्ञान</li><li>• कालिदास कृत रघुवंशम्- राजा रघु तथा उनकी पत्नी सुदक्षिणा के द्वारा सन्तान प्राप्ति के लिए की गई नन्दिनी गाय की सेवा का वर्णन</li><li>• संस्कृत भाषा के ज्ञान के लिए- कृत प्रत्यय,</li><li>• समास, लघुसिद्धान्त कौमुदी के आधार प्रत्याहार सूत्र का अध्ययन।</li></ul> |
| Semester –V Sanskrit (Optional)   | <ul style="list-style-type: none"><li>• शुद्ध एवं सरल वाक्यों के माध्यम से संस्कृत वाग्व्यवहार करना।</li><li>• वैदिक वांग्मय द्वारा भारतीय पुरातन</li></ul>   |

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|                                  | <p>संस्कृति व ज्ञान से परिचित कराना।</p> <ul style="list-style-type: none"> <li>• नाटक के माध्यम से संस्कृत साहित्य से विद्यार्थियों को अवगत कराना।</li> <li>• व्याकरण में प्रत्यय के द्वारा भाषा की व्याकरण शुद्धता का ज्ञान कराना।</li> </ul>  |
| Semester –VI Sanskrit (Optional) | <ul style="list-style-type: none"> <li>• शुद्ध एवं सरल वाक्यों के माध्यम से संस्कृत वागव्यवहार करना।</li> <li>• लौकिक साहित्य द्वारा विद्यार्थियों में नाट्य कौशल को बढ़ावा देना एवं भारतीय लौकिक साहित्य में विद्यार्थियों की रुचि बढ़ाना।</li> <li>• संस्कृत नाटक के माध्यम से विद्यार्थियों में अभिनय कला का विकास करना।</li> <li>• निबंध लेखन द्वारा विद्यार्थियों के शब्दकोश में वृद्धि करना एवं उनकी व्याकरणिक अशुद्धियों को सुधारना तथा लेखन क्षमता को बढ़ाना।</li> </ul> |

## **History**

### **Program Specific Outcomes**

- Understand background of our religion, customs institutions, administration and so on.
- Understand the present existing social, political, religious and economic conditions of the people.
- Analyze relationship between the past and the present is lively presented in the history.
- Develop practical skills helpful in the study and understanding of historical events

### **Course Outcomes**

| Semester-I  |  |
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| Paper-HR-01 History of India (Earliest Times to 1200AD) | <ul style="list-style-type: none"> <li>• The students will identify and describe the emergence of the earliest civilizations in India: the Harappan and Aryan societies in the Indian sub-continent.</li> <li>• They will Identify and analyze the Buddhist and Vedic (Hindu) faiths.</li> <li>• They would be able to analyze the emergence of the Mauryan and Gupta empires during the —classical age in India.</li> </ul> |
| Semester-II   |  |
| Paper-HR-02 History of India (1200 to 1707 AD)          | <ul style="list-style-type: none"> <li>• Make students understand the rise and expansion of Delhi Sultanate.</li> <li>• They will be able to analyze Mughal rule, administrations, art, and architecture.</li> <li>• They will be able to identify cultural synthesis in Delhi Sultanate and Mughal Rule.</li> </ul>   |

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| Semester-III  |  |
| Paper-HR-03 History of India (1707 to 1947 AD)                  | <ul style="list-style-type: none"> <li>• The students can evaluate consolidation of English Power in India.</li> <li>• They can analyze social religious consciousness in British India.</li> <li>• They are able to analyze various economic policies in British India</li> <li>• The course will enable them to have inter-comparison of Nationalist movements- Pre- Gandhian and Post-Gandhian Era.</li> </ul>  |
| Semester-IV   |  |
| Paper-HR-04 History of Haryana (from earliest times to 1947 AD) | <ul style="list-style-type: none"> <li>• They are able to have the description of political and cultural activities of Haryana during ancient and medieval period.</li> <li>• They will understand and describe early resistance against British East India Company and the mutiny of 1857.</li> <li>• They can classify socio- religious movement in Haryana.</li> </ul>  |
| Semester-V  |  |
| Paper-HR-05 Ancient and Medieval World                          | <ul style="list-style-type: none"> <li>• Upon successful completion of this course, the student will be able to identify and define the world's earliest civilizations, including the Neolithic Revolution, and describe how it shaped the development of these early civilizations.</li> <li>• They are able to identify and describe the characteristics of the Roman Kingdom, the Roman Republic, and Imperial Rome.</li> <li>• They will be able to Identify and analyze key facets of medieval society in Western Europe—the Catholic Church and Feudalism, the rise of Islam in the Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty, and The Abbasid dynasty.</li> </ul> |
| Semester-VI   |  |
| Paper-HR-06 Modern World  | <ul style="list-style-type: none"> <li>• Students are able to classify growth of mercantilism and capitalism.</li> <li>• They can analyze and describe the development of Agricultural and Industrial revolutions. They can analyze the classification development of democracy in England, France, Italy and Germany.</li> <li>• They will acquire knowledge about Russian Revolution and Chinese Revolutions.</li> </ul>   |



# **Geography**

## **Program Specific Outcomes**

- Students learn about formation of landforms and identify various landforms around them.
- Students learn about various economic activities of man and their spatial temporal distribution and students acquire knowledge of basic surveying and map making
- Students know about disasters, their causes and managing disasters.
- Students come to know about geographical, socio-economic and political background of India.
- Students apply geographical knowledge in their day to day life like being alert about disasters, weather and climate data.

## **Course Outcomes**

After completion of this courses student should be able to:

| Semester I                                     |  |
|--|--|
| Geography Of India<br>Paper Code-101           | <ul style="list-style-type: none"><li>• They can know about their own countries land formation, climate and natural vegetation.</li><li>• They understand the population problems in India. Access the population policies and reaction the countries.</li><li>• They understand globalization and Indian economy. And also understand the regional distribution of resource.</li></ul>                  |
| Semester II                                    |  |
| Physical Geography (Part-1)<br>Paper Code-103  | <ul style="list-style-type: none"><li>• Understand the processes of erosion, deposition and resulting landforms.</li><li>• Explain the development of drainage system in uniclinal and folded structure.</li><li>• Understand concept of normal cycle of erosion and its interruption.</li><li>• Develop an idea about types of coastal landforms.</li><li>• Acquire knowledge about hydrology</li></ul> |
| Semester III                                   |  |
| Physical Geography (Part- 2)<br>Paper Code-201 | <ul style="list-style-type: none"><li>• Understand the processes of erosion, deposition and resulting landforms.</li><li>• Explain the development of drainage system in uniclinal and folded structure.</li><li>• Understand concept of normal cycle of erosion and its interruption.</li><li>• Develop an idea about types of coastal landforms.</li><li>• Acquire knowledge about hydrology</li></ul> |
| Semester IV                                    |  |

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| Human Geography<br>Paper Code-203  | <ul style="list-style-type: none"> <li>• Gain knowledge about major themes of human geography.</li> <li>• Develop an idea about space and society. Build an idea about population growth and distribution of population.</li> <li>• Know about population –resource relationship.</li> </ul>  |
| Semester V   |   |
| Economic Geography<br>Paper Code- 301  | <ul style="list-style-type: none"> <li>• Understand the concept of economic activity, factors affecting location of economic activity. Gain knowledge about different types of primary activities.</li> <li>• Develop an idea about different types of secondary activities.</li> <li>• Acquire knowledge about different types of tertiary activities.</li> </ul>  |
| Semester VI  |   |
| Introduction To Remote Sensing , Gis And Quantitative Methods<br>Paper Code- 303 | <ul style="list-style-type: none"> <li>• They can know about concepts, components, development, platforms and types of remote sensing and GIS.</li> <li>• They understand about Aerial photography and Satellite Remote Sensing.</li> <li>• Know about GIS data structures.</li> <li>• Develop an idea about interpretation and application of remote sensing and GIS and some quantitative methods like mean ,mode, median etc.</li> </ul> |

## **Political Science**

### **Program Specific Outcomes**

- Understanding of government institutions, electoral processes, and policies in a variety of countries around the world and the ability to compare the effectiveness or impact of various political arrangements across countries.
- Knowledge of some of the philosophical underpinnings of modern politics and government and the legal principles by which political disputes are often settled.
- Understand the changes in patterns of political behaviour, ideas and structures.
- Assess how global, national and regional developments affect polity and society.
- Develop the ability to make logical inferences about social and political issues on the basis of comparative and historical knowledge.

### **Course Outcomes**

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| Semester I                                 |   |
| Paper: PS01 Indian Constitution (option 1) | <ul style="list-style-type: none"> <li>• Students will understand the duties and constitutional powers of the President, Prime Minister, Governor, Chief Ministers and the council of Ministers.</li> <li>• The course explains the composition and role of the Lok Sabha, the Rajya Sabha and the state Legislature and also the working of</li> </ul> |

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|  | <p>the Gram Panchayat, the Gram Sabha and the duties of the Sarpanch as the executive.</p> <ul style="list-style-type: none"> <li>Judiciary as an important pillar of a successful democracy need to be discussed and well understood.</li> </ul>  |
| Semester II  |  |
| Paper: PS02 Indian Politics (option 1)                   | <ul style="list-style-type: none"> <li>Students will learn about justification of more autonomy to the states and pros and cons of smaller states.</li> <li>Students will know the composition, powers and duties of the Election Commission of India, challenges in smooth conduct of the elections; factors affecting voting behavior, voters' rights and responsibilities and need for new electoral reforms in India.</li> <li>Growing factionalism in Indian politics on the basis of region, religion, caste and language and its implication for democracy. Students shall learn the factors for these fissiparous tendencies and counter measures required.</li> </ul> |
| Semester III   |  |
| Paper: PS03 Principles of political Science-I (option 1) | <ul style="list-style-type: none"> <li>Understanding the meaning, nature and scope of the Political Science for a common citizen in a young democracy; relating the political science with other social sciences</li> <li>The origin and existence of the states in democracy, Institutions building and role for smooth governance, the knowledge about theories of evolution of the state and its governance.</li> <li>Sovereignty - its importance and attributes and its relevance in changing political environment and threats to the sovereignty, comparative study of the Monistic and Pluralistic theories.</li> </ul>  |
| Semester IV  |  |
| PS04 Principles of Political Science-II (option 1)       | <ul style="list-style-type: none"> <li>Significance and relevance of the knowledge about the Human Rights and its violations in the liberal democracies and its repercussions, the role and powers of the Human Rights.</li> <li>Social changes due to working of democracy and need for Applying Gandhian Model and the concept of the welfare state.</li> <li>Knowledge about the Right to Information Act and Consumer rights and protection and their importance in democracy</li> </ul>   |
| Semester V   |  |
| Paper: PS05 Comparative Politics (option 1)              | <ul style="list-style-type: none"> <li>Need and significance of politics for modern state and comparison of different political systems in the world.</li> <li>Knowledge about various approaches of comparative politics and relevance in</li> </ul>  |

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|  | <p>changing political set up and political equations.</p> <ul style="list-style-type: none"> <li>• Knowledge about basis of constitutionalism and different types of constitution and problems in constitutionalism.</li> </ul>  |
| Semester VI  |  |
| Paper: PS06 Comparative constitutions of UK & USA (Option-I) | <ul style="list-style-type: none"> <li>• Fundamentals and significance of constitutions of the UK &amp; USA in the Indian context and also the socio economic basis in democracies.</li> <li>• The levels and mechanisms of judiciary in UK &amp; USA and their role in keeping democracy transparent and also the role of the pressure groups and political parties.</li> <li>• The electoral Process in UK &amp; USA and Its transparency; People attitude towards franchising and consciousness towards politics; the quality and levels of bureaucracy in UK&amp;USA.</li> </ul> |

## **Music (Vocal)**

### **Program Specific Outcome**

- Students having Music (V) could be a music therapist, TV or radio artists, a music director and radio or TV playback singer, a teacher, a straight performer or could also do private tuitions.
- Students will apply relevant forms of music technology, including their basic functions and integrative nature.

### **Course Outcomes**

| Semester I         |  |
|--------------------|--|
| Subject: Music (V) | <p>At the end of the course, students will be able to</p> <ul style="list-style-type: none"> <li>• Know what is Sangeet, Swar, Saptak, Nad and Shruti</li> <li>• Know about different Alankars and use of Alankars in Swar vistar.</li> <li>• Know what is raag and Thata.</li> <li>• Different type of Swaras like Vadi, Samvadi, Arvrevadi and Vivadi in a Raga.</li> <li>• What is the need of sangeet in the origin of Srishti and in present.</li> <li>• Ability to sing lakshan geet and Sargam geet.</li> <li>• Know the use of Talas in different Gayan Shallies.</li> </ul> |
| Semester II        |  |
| Subject: Music (V) | <p>At the end of the course, students will be able to know</p> <ul style="list-style-type: none"> <li>• The qualities and disqualities of Gayak.</li> <li>• The qualities of a Vagayakar.</li> <li>• The contribution of musicians towards</li> </ul>  |

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|                    | <p>music. They are : Pt. Omkar Nath Thakur, Pt. Narayan Rao Vyas and Ustad Abdul Karim Khan.</p> <ul style="list-style-type: none"> <li>• Why Tanpura and Harmonium are used in Music ?</li> <li>• Alapgaan presentation in ancient and in present.</li> <li>• How to apply Taal in classical singing ?</li> <li>• Role of music in National Integration.</li> <li>• How to demonstrate Ragaas on Stage</li> </ul>  |
| Semester III       |   |
| Subject: Music (V) | <p>At the end of the course, students will be able to</p> <ul style="list-style-type: none"> <li>• How to play Harmonium (Basic)</li> <li>• Know more Talas and their application like EkTaal and Adachantal.</li> <li>• How to apply Alankars in mentioned Raags of prescribed Syllabi.</li> <li>• Know about Avirbhav- Tirobhav, Saties of Raag</li> <li>• Know how the song relates to Raag</li> <li>• Know about different gayan shailies.</li> </ul> |
| Semester IV        |   |
| Subject: Music (V) | <p>At the end of the course, students will be able to</p> <ul style="list-style-type: none"> <li>• Correlate to Raags</li> <li>• Know how to apply swar in song and Raag</li> <li>• Other different shalies (Gayan) and where Shalies are applied</li> <li>• Know Gram and Moorchana.</li> <li>• Know how we get seven Swaras from the four strings of a Tanpura.</li> <li>• About Ramayan and Mahabharat Kal. mein sangeet.</li> </ul>                   |
| Semester V         |   |
| Subject: Music (V) | <ul style="list-style-type: none"> <li>• At the end of the course, students will be able to sing one Vilamtrit and all drut Khyals in Tilak Kamod, Bhairvi and Miyanki Malth</li> <li>• The role of Gharana, Prampara of Gwalior, Agra, and Kirana.</li> <li>• The use of sing vilantrit and drut in sangeet</li> <li>• Elementary knowledge of the folk music of Punjab.</li> </ul>  |
| Semester VI        |   |
| Subject: Music (V) | <p>At the end of the course, students will be able to</p> <ul style="list-style-type: none"> <li>• Know the role of notation, Gharana system merits and demerits, how it is important in present scenario</li> <li>• Know how Bhim Plasi, Patdeep and Madhuwanti correlate with each other, and its use in different Gayan Shallies.</li> <li>• Know what's Dhama/gayan shallie/knowledge/and how it is sung in</li> </ul>                                |

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|  | Dhamar Taal <ul style="list-style-type: none"> <li>Know about folk music of Haryana</li> </ul> |
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## **Psychology**

### **Program Specific Outcomes**

- Students graduate with a degree in psychology will know the theories, major concepts and mechanism which explain human thoughts and behavior.
- Students graduating with a degree in psychology will be able to interpret, design and conduct basic psychological research.
- Students graduating with a degree in psychology will be able to apply ethical standards to evaluate psychological science and practice.

### **Course Outcomes:**

After completion of these courses' students should be able to:

| Course  | Outcome   |
|---|---|
| <b>B.A (Psychology) 1.1.<br/>Introduction to psychology</b> | <ul style="list-style-type: none"> <li>Study of psychology history, emergence as a science, subject matter.</li> <li>Methods of psychology: experimental, observation, survey.</li> <li>Know about sensory processes: visual auditory.</li> <li>Know about perception: form</li> <li>Know about emotions and motivation</li> <li>Know about personality and intelligence</li> </ul> |
| <b>B.A. (Psychology) 1.2.<br/>Experimental psychology</b>   | <ul style="list-style-type: none"> <li>Know about attention and psychophysics</li> <li>Know about learning and its types and factor</li> <li>Detail study in memory and forgetting</li> <li>Understand the problem solving and various stages.</li> <li>Statistics: frequency distribution, central tendencies.</li> </ul>  |
| <b>B.A (Psychology) 2.1.<br/>Social psychology</b>          | <ul style="list-style-type: none"> <li>Introduction of social psychology</li> <li>Socialization: process nature and agent.</li> <li>Group: types and functions.</li> <li>Leadership: types and theories.</li> <li>Attitudes and prejudice.</li> <li>Prosocial behavior and aggression</li> </ul>  |
| <b>B.A. (Psychology) 2.2.<br/>Developmental psychology</b>  | <ul style="list-style-type: none"> <li>Know about human development and factors.</li> <li>Know about prenatal development and stages.</li> <li>Know about infancy.</li> <li>Know about childhood and adolescents.</li> <li>Know about adulthood and measure of variability.</li> </ul>  |
| <b>BA. (Psychology) .3.1<br/>Psychopathology</b>            | <ul style="list-style-type: none"> <li>Know about concept of normality and abnormality</li> <li>Understand the models of psychopathology and classification of psychopathology</li> <li>Understand the diagnostic assessment.</li> <li>Know about anxiety based disorders-GAD,OCD and phobic disorder</li> <li>Know about substance/drug abuse and mood disorder.</li> </ul>        |

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|   | <ul style="list-style-type: none"> <li>• Know about schizophrenia's type and causes</li> </ul>   |
| <b>B.A. (Psychology)</b><br><b>3.2</b><br><b>Applied psychology</b> | <ul style="list-style-type: none"> <li>• To study applied psychology</li> <li>• Organizational psychology: nature, scope, objectives and development.</li> <li>• To know about guidance and counseling.</li> <li>• Health psychology and psychological factors in physical illness: lifestyle and health, stress and coping.</li> <li>• Know about forensic psychology.</li> <li>• Know about statistics: rank difference and product movement methods.</li> </ul> |

## **Economics**

### **Program Specific Outcomes**

- Students will be able to understand economic vocabulary, methodologies, tools and analysis procedures.
- Students will be able to learn the behavioural patterns of different economic agents, advance theoretical issues and their applications.
- Students will be able to delineate the fiscal policies designed for developed and developing economics.
- Students will be able to learn the basic concept of monetary analysis and financial marketing in Indian financial markets.

### **Course Outcomes**

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|--|---|
| <b>B.A. Semester 1 Microeconomics- 1</b> | <p>On completion of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand and demonstrate core micro-economic terms, concepts, and theories.</li> <li>• Evaluate the factors affecting firm behavior, such as production and costs</li> <li>• Identify the determinants of supply and demand; demonstrate the impact of shifts in both market supply and demand curves on equilibrium price and output.</li> </ul> |
| <b>B.A. Semester 2 Microeconomics- 2</b> | <ul style="list-style-type: none"> <li>• Integrate the concepts of price and output decisions of firms under various market structure.</li> <li>• Analyze the causes and consequences of different market conditions.</li> <li>• Recognize market failure and the role of government in dealing with those failures.</li> </ul>   |
| <b>B.A. Semester 3 Macro Economics-1</b> | <ul style="list-style-type: none"> <li>• They will also get to know about Consumption Function, Investment, Multiplier, Fiscal Operations and then Income determination models.</li> <li>• It widens their knowledge and enables them to see the wider picture of the</li> </ul>  |

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|  | economy and also to understand how the entire economy is interconnected... basically the Macro View of the economy   |
| <b>B.A. Semester 4 Macro Economics-2</b>       | <ul style="list-style-type: none"> <li>• Students learn actual working of the economy, fiscal operations of the government, and also they come to know about various aspects related to money.</li> <li>• Knowing about banking operations, taxation, subsidies etc. makes them have a good understanding of these aspects as responsible adults and take enlightened decisions related to these issues in their real life.</li> </ul> |
| <b>B.A. Semester 5 Development Economics</b>   | <ul style="list-style-type: none"> <li>• To understand the features of underdeveloped countries.</li> <li>• To understand the determinants, measurement &amp; obstacles of Economic development.</li> <li>• To know about the natural resources &amp; environmental pollution.</li> </ul>  |
| <b>B.A. Semester 6 International Economics</b> | <ul style="list-style-type: none"> <li>• To know about the Inter-regional and International trade &amp; different theory of international trade.</li> <li>• To know about the different international institutions like IMF, World Bank, WTO, SAARC.</li> <li>• To know about foreign trade multiplier &amp; Balance of payments.</li> </ul>   |

## **Mathematics**

### **Program Specific Outcomes**

- Students will be able to demonstrate quantitative reasoning skills
- Students develops an awareness of career choices and the option for higher studies
- Students will get knowledge about the framework of classical thinker and understand them in modern context
- Encourage the students to develop a range of generic skills helpful in employment, internship and social activities

### **Course Outcomes**

After completion of these courses students should be able to;

| <b><u>Course</u></b>                   | <b><u>Outcomes</u></b>   |
|--|--|
| <b>Algebra (12BAM 111)<br/>(sem-1)</b> | <ul style="list-style-type: none"> <li>• Find rank of matrices and its applicants to a system of linear Equations</li> <li>• Learn orthogonal, unitary matrices, bilinear and quadratic forms</li> <li>• To solve cubic and Biquadratic equations</li> </ul> |



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| <b>Calculus (12BAM 112)</b><br><b>(sem-1)</b>                        | <ul style="list-style-type: none"> <li>• Learn limit, continuity and differentiability functions</li> <li>• Find asymptotes and Radius of curvature and tracing of curves</li> <li>• Find Area and volume of solids</li> </ul>  |
| <b>Solid Geometry (12BAM 113)</b><br><b>(sem-1)</b>                  | <ul style="list-style-type: none"> <li>• Learn tracing of conics</li> <li>• Find equation of tangent line, polar of a point, chord of contact, director circle in 2-D</li> <li>• Find director sphere, enveloping cone, enveloping cylinder, tangent plane, polar plane, plane section in 3-D</li> <li>• Reduce second degree equations to standard form</li> </ul>             |
| <b>Number Thoery and Trigonometry (12BAM 121)</b><br><b>(sem-2)</b>  | <ul style="list-style-type: none"> <li>• Apply De Moivre's Thoerem in expansion of Trigonometrical functions</li> <li>• Learn summation of trigonometry series and logarithm of a complex quantity</li> <li>• Understand the concept of Residue system modulo m, euler's phi, Moebius functions and linear Diophantine Equations</li> </ul>                                     |
| <b>Ordinary Differential Equations (12BAM 122)</b><br><b>(sem-2)</b> | <ul style="list-style-type: none"> <li>• Solve exact differential equations</li> <li>• Understand orthogonal trajectories and linear differential equations</li> <li>• Find solution of simultaneous differential equations</li> </ul>  |
| <b>Vector Calculus (12BAM 123)</b><br><b>(sem-2)</b>                 | <ul style="list-style-type: none"> <li>• Find product of three vectors and four vectors</li> <li>• Find gradient of scalar function, Divergence and curl of vector function</li> <li>• Understand orthogonal curvilinear coordinates</li> <li>• Solve line , surface and volume integral</li> </ul>   |
| <b>Advanced calculus (12BAM 231)</b><br><b>(sem-3)</b>               | <ul style="list-style-type: none"> <li>• Continuity, uniform continuity and their properties</li> <li>• Partial differentiation and total differentiation, composite and implicit function</li> <li>• Maxima and minima of two variables, Lagrange method of multipliers</li> <li>• Spherical curvature, involutes and evolutes, tangent planes</li> </ul>                      |
| <b>Partial Differentiation (12BAM 232)</b><br><b>(sem-3)</b>         | <ul style="list-style-type: none"> <li>• Linear and non linear PDE of first, second and higher order</li> <li>• Homogenous and non homogenous equation with constant coefficient</li> <li>• Reduction of second order linear partial differential equations to canonical form</li> <li>• Method of separation of variables, solution of laplace, wave, Heat equation</li> </ul> |
| <b>Statics (12BAM 233)</b><br><b>(sem-3)</b>                         | <ul style="list-style-type: none"> <li>• Composition and resolution of forces, parallel forces, moments and couples</li> <li>• Analytical condition of equilibrium of coplanar forces, friction, centre of gravity, forces in 3-D</li> <li>• Wrecnches, null lines and planes, stable and unstable equilibrium</li> </ul>   |
| <b>Sequence and series (12BAM 241)</b><br><b>( sem-4)</b>            | <ul style="list-style-type: none"> <li>• Lub and glb of a set, limit points, open set, closed set, interior point, closure of set, open curves, compact sets</li> <li>• Real sequences and their convergence, infinite</li> </ul>   |

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|  | <p>series</p> <ul style="list-style-type: none"> <li>• Alternating series, Arbitrary test, cauchy product of series, Riemann's Rearrangement theorem</li> </ul>  |
| <b>Special function and Integral Transform</b><br><b>(12BAM 242)</b><br><b>(sem-4)</b> | <ul style="list-style-type: none"> <li>• Series solution of differential equation, Bessel's function</li> <li>• Legendre and hermit differential equation</li> <li>• Laplace transform</li> <li>• Fourier transform</li> </ul>   |
| <b>Programming in C and Numerical methods</b><br><b>(12BAM 243)</b><br><b>(sem-4)</b>  | <ul style="list-style-type: none"> <li>• Algorithm, flow chart, data types, operators and expressions, input, output functions</li> <li>• Decision control structure</li> <li>• Strings, structures, pointers, Array, solution of algebraic and transcendental equations</li> <li>• Simultaneous linear algebraic equations</li> </ul> |
| <b>Real Analysis</b><br><b>(12BAM 351)</b><br><b>(sem-5)</b>                           | <ul style="list-style-type: none"> <li>• Understand and integrability of continuous and Monotonic functions</li> <li>• To understand about improper integrals and their convergence</li> <li>• Metric spaces and cauchy sequence</li> </ul>  |
| <b>Groups and Rings</b><br><b>(12BAM 352)</b><br><b>(sem-5)</b>                        | <ul style="list-style-type: none"> <li>• To familiarize with group and its properties</li> <li>• Learn permutations groups, centre of group and derived group</li> <li>• To familiarize with rings, subrings, integral domains and fields</li> </ul>   |
| <b>Numerical Analysis</b><br><b>(12BAM 363)</b><br><b>(sem-5)</b>                      | <ul style="list-style-type: none"> <li>• Newton's forward and backward interpolation and divided difference formulae</li> <li>• To learn about central differences and probability distribution of random variables</li> <li>• To understand about Numerical differentiation, integration and eigen value problems</li> </ul>          |
| <b>Real and Complex Analysis</b><br><b>(12BAM 361)</b><br><b>(sem-6)</b>               | <ul style="list-style-type: none"> <li>• To familiarize with Jacobians, Beta and gamma functions</li> <li>• To understand about Fourier's series</li> <li>• To understand concept of complex numbers</li> </ul>  |
| <b>Linear algebra</b><br><b>(12BAM 362)</b><br><b>(sem-6)</b>                          | <ul style="list-style-type: none"> <li>• To familiarize with vector spaces, subspaces, quotient space and its dimension</li> <li>• Learn about algebra of linear transformation</li> <li>• To understand about inner product spaces, orthogonal sets and basis</li> </ul>  |
| <b>Dynamic</b><br><b>(12BAM 353)</b><br><b>(sem-6)</b>                                 | <ul style="list-style-type: none"> <li>• Understand about velocity and acceleration</li> <li>• Learn about mass, momentum and force, work, power and energy</li> <li>• Understand projectile motion of a particle in a plane, central orbit, motion in 3-D</li> </ul>  |

## Statistics

### Program Specific Outcomes

- Bachelor's degree in statistics is the culmination of in- depth knowledge of data ,its collection and its interpretation .This also leads to study of related areas like computer science, financial mathematics, statistics and many more.
- Students completing this Program will be able to present statistics clearly and precisely make vague ideas precise by Formulating them in the language of statistics, describe mathematical ideas from multiple perspective and explain fundamental concepts of mathematics to non mathematics
- Encourage the students to develop range of generic skills helpful in employment, internship and social activities.

## Course Outcomes

After completion of these courses students should be able to

| Course  | Outcomes  |
|---|---|
| <b>Paper 1 statistical methods (sem-1)</b>    | <ul style="list-style-type: none"> <li>• Know a short historical development of subject of statistics.</li> <li>• Describe central tendency .enumerate the requisites of ideal measure of central tendency.</li> <li>• Define and compute raw moments and central moments , skewness and kurtosis.</li> </ul>                                 |
| <b>Paper 2 Probability Theory (sem-1)</b>     | <ul style="list-style-type: none"> <li>• Understand concepts in probability and its definition; classical ,relative, statistical and axiomatic approach and baye's theorem</li> <li>• Definition and properties of random variable: discrete and continuous.</li> <li>• Know about moment generating function with its properties.</li> </ul> |
| <b>Paper1 sem 2 Statistical methods 2</b>     | <ul style="list-style-type: none"> <li>• Know about concepts and types of correlation,karl pearson and rank correlation coefficient.</li> <li>• Know about concept of regression and fitting of second degree curves.</li> <li>• Know about concepts of multiple ,partial correlation and regression.</li> </ul>                              |
| <b>Paper2 sem 2 probability distributions</b> | <ul style="list-style-type: none"> <li>• Understand Bernoulli ,binomial and poisson distributions and their properties.</li> <li>• Understand uniform , geometric and hyper geometric distributions and their properties.</li> <li>• Understand normal, beta and gamma distributions and their properties.</li> </ul>                         |
| <b>Paper1 sem 3 elementary inference</b>      | <ul style="list-style-type: none"> <li>• Understand the topic statistical estimation.</li> <li>• Understand topic of testing of hypothesis and methods of estimation.</li> <li>• Know about large sample test and Fisher's Z transformations.</li> </ul>  |
| <b>Paper2 sem 3 sample surveys</b>            | <ul style="list-style-type: none"> <li>• Understand the concepts of census and sample surveys , sampling and non samplings errors.</li> <li>• Know some basic sampling methods and estimators of</li> </ul>   |

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|  | <p>proportions and ratios.</p> <ul style="list-style-type: none"> <li>Understand stratified random sampling systematic random sampling and its various results about variance.</li> </ul>  |
| <b>Paper1 sem 4 Parametric and non-parametric tests</b>            | <ul style="list-style-type: none"> <li>Understand Chi-Square distribution ,goodness of fit,contingency table, test of independence of attributes.</li> <li>Understand t and f statistics ,definition and derivation of snecdcor's F-distributions and its properties.</li> <li>Understand non parameteric tests ,run test and median test.</li> </ul>  |
| <b>Paper2 sem 4 design of experiments</b>                          | <ul style="list-style-type: none"> <li>Understand concept of analysis of variance(ANOVA), need of design of experiments.</li> <li>Understand the fundamental principles of design ,randomized block design and their layout and efficiency or RBD relative to CRD.</li> <li>Understand latin square design (LSD), its statistical analysis ,Yate's method for computing main and interaction effects.</li> </ul> |
| <b>Paper 1 sem 5 applied statistics</b>                            | <ul style="list-style-type: none"> <li>Understand the topic index numbers and Laspeyer's ,Paasche's,Marshall edgeworth and fisher's index no.</li> <li>Understand time series analysis , analysis of seasonal fluctuations using different methods.</li> <li>Demographic methods and its analysis, abridged life table using king's method, stationary and stable population.</li> </ul>                         |
| <b>Paper2 sem5 numerical methods and fundamentals of computers</b> | <ul style="list-style-type: none"> <li>Know about numerical methods, lagrange's method of interpolation , trapezoidal rule ,simpson's one-third and three eight formula.</li> <li>Understand the bsic of computers ,introduction ,origin, uses and limitations and computer arithmetic .</li> <li>Understand flow charts and algorithm ,concepts of correlation , straight line fitting.</li> </ul>              |
| <b>Paper1 sem 6 statistical quality control</b>                    | <ul style="list-style-type: none"> <li>Meaning and uses of SQC, causes of variations in quality.</li> <li>Understand acceptance sampling , their OC functions ,concepts of AQL, LTPD, AOQL.</li> <li>Understand demand analysis ,family budget data,engel's law, curves of concentrations.</li> </ul>  |
| <b>Paper2 sem6 operations research</b>                             | <ul style="list-style-type: none"> <li>Understand the objectives of O.R., scope ,nature,origin and necessities of O.R. and its formulations.</li> <li>Understand LPP ,objective functions and simplex method.</li> <li>Understand transportation problem, its formulations, north west method, matrix method, assignment problem and its solution.</li> </ul>  |

## Name of Programme: B.Sc.

### Program Outcomes

- The B. Sc. Programme develops scientific temperament and attitude among the science graduates.
- The qualities of a science – observation, precision, analytical mind, logical thinking, clarity of thought and expression, systematic approach, qualitative and quantitative decision making are enlarged.
- The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.
- This programme train the learners to extract information, formulate and solve problems in a systematic and logical manner.
- This programme enables the learners to perform the jobs in diverse fields such as science, engineering, industries, survey, education, banking, development-planning, business, public service, self-business etc. efficiently.

### Sanskrit

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| B.Sc. 1st semester - Sanskrit | <ul style="list-style-type: none"><li>• संस्कृत साहित्य के नैतिक-मूल्यों का ज्ञान।</li><li>• संस्कृत के शब्दरूपों एवं धातुरूपों का ज्ञान।</li></ul>   |
| B.Sc. 2nd semester - Sanskrit | <ul style="list-style-type: none"><li>• संस्कृत के विभिन्न पद्यों एवं गद्यात्मक कथाओं के माध्यम से नैतिक-शिक्षा का ज्ञान।</li><li>• संस्कृत भाषा को जानने के लिये शब्दरूप, धातुरूप एवं अनुवाद का ज्ञान।</li></ul> |

### Mathematics

**Course Outcomes:** After completion of these courses students should be able to

| Course                                     | Outcomes   |
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| <b>Algebra( BHM 111)<br/>(sem-1)</b>       | <ul style="list-style-type: none"><li>• Find rank of matrices and its applicants to a system of linear Equations</li><li>• Learn orthogonal, unitary matrices, bilinear and quadratic forms</li><li>• To solve cubic and Biquadratic equations</li></ul> |
| <b>Calculus(BHM 112)<br/>(sem-1)</b>       | <ul style="list-style-type: none"><li>• Learn limit, continuity and differentiability functions</li><li>• Find asymptotes and Radius of curvature and tracing of curves</li><li>• Find Area and volume of solids</li></ul>                               |
| <b>Solid geometry<br/>(BHM 113)(sem-1)</b> | <ul style="list-style-type: none"><li>• Learn tracing of conics</li></ul>  |

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|   | <ul style="list-style-type: none"> <li>Find equation of tangent line, polar of a point, chord of contact, director circle in 2-D</li> <li>Find director sphere, enveloping cone, enveloping cylinder, tangent plane, polar plane, plane section in 3-D</li> <li>Reduce second degree equations to standard form</li> </ul>  |
| <b>Discrete mathematics-1(BHM 114)</b><br>(sem-1)               | <ul style="list-style-type: none"> <li>Sets, relation, Mathematical induction Pigeon hole principle and it's application</li> <li>Permutations and combinations, probability, basic Thoery of graphs and rings</li> <li>Generating functions, recurrence relations homogenous solution, particular relations</li> </ul>   |
| <b>Computer Fundamentals and MS-Office (BHM 116)</b><br>(Sem-1) | <ul style="list-style-type: none"> <li>Understand model, components of computer and how it works.</li> <li>Understand the concept of input and output devices of Computers in detail.</li> <li>Understand memory its types in detail.</li> <li>Understand the concepts types and design of operating Systems.</li> <li>Understand where to use computer.</li> <li>Recognize when to use each of the Microsoft Office programs to create professional and academic documents.</li> </ul>   |
| <b>Number theory and trigonometry (BHM 121)</b><br>(sem-2)      | <ul style="list-style-type: none"> <li>Apply De Moivre's Thoerem in expansion of Trigonometrical functions</li> <li>Learn summation of trigonometry series and logarithm of a complex quantity</li> <li>Understand the concept of Residue system modulo m, euler's phi, Moebius functions and linear Diophantine Equations</li> </ul>   |
| <b>Ordinary differential equations(BHM 122)</b><br>(sem-2)      | <ul style="list-style-type: none"> <li>Solve exact differential equations</li> <li>Understand orthogonal trajectories and linear differential equations</li> <li>Find solution of simultaneous differential equations</li> </ul>  |
| <b>Vector calculus(BHM 123)</b><br>(sem-2)                      | <ul style="list-style-type: none"> <li>Find product of three vectors and four vectors</li> <li>Find gradient of scalar function, Divergence and curl of vector function</li> <li>Understand orthogonal curvilinear coordinates</li> <li>Solve line , surface and volume integral</li> </ul>   |
| <b>Discrete Mathematics -2 (BHM 124)</b><br>(sem-2)             | <ul style="list-style-type: none"> <li>Lattices and their properties, complement and disturbance lattices</li> <li>Boolean algebra, digital networks, switching circuits, duality</li> <li>Knowledge of graphs and trees</li> </ul>   |
| <b>Programming in Visual Basis (BHM 126)</b><br>(Sem-2)         | <ul style="list-style-type: none"> <li>Understand the programming language and identify the fundamental concepts of object-oriented programming as well as event driven programming.</li> <li>understand and use the concepts of controls, objects, primitive value, message, method, selection control structure, repetition control structures</li> <li>know how to write and run a complete program</li> <li>understand menus and database programming</li> <li>Understand Arrays, control Arrays, procedures and functions</li> </ul> |

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| <b>Advanced calculus(BHM 231)</b><br><b>(sem-3)</b>                         | <ul style="list-style-type: none"> <li>• Continuity, uniform continuity and their properties</li> <li>• Partial differentiation and total differentiation, composite and implicit function</li> <li>• Maxima and minima of two variables, Lagrange method of multipliers</li> <li>• Spherical curvature, involutes and evolutes, tangent planes</li> </ul>                      |
| <b>Partial Differentiation</b><br><b>(BHM 232)</b><br><b>(sem-3)</b>        | <ul style="list-style-type: none"> <li>• Linear and non linear PDE of first, second and higher order</li> <li>• Homogenous and non homogenous equation with constant coefficient</li> <li>• Reduction of second order linear partial differential equations to canonical form</li> <li>• Method of separation of variables, solution of laplace, wave, Heat equation</li> </ul> |
| <b>Statics ( BHM 233)</b><br><b>(sem-3)</b>                                 | <ul style="list-style-type: none"> <li>• Composition and resolution of forces, parallel forces, moments and couples</li> <li>• Analytical condition of equilibrium of coplanar forces, friction, centre of gravity, forces in 3-D</li> <li>• Wrecnches, null lines and planes, stable and unstable equilibrium</li> </ul>   |
| <b>Differential Geometry</b><br><b>(BHM 234)</b><br><b>(sem-3)</b>          | <ul style="list-style-type: none"> <li>• One parameter family of envelope, surface, developables associated with a curve</li> <li>• Two parameter family of surface, first order magnitudes, direction on surface</li> <li>• Geodesic and geodesics parallel, kg bonnet's formula , torsion of geodesics</li> </ul>   |
| <b>Sequence and series</b><br><b>(BHM 241)</b><br><b>(sem-4)</b>            | <ul style="list-style-type: none"> <li>• Lub and glb of a set, limit points, open set, closed set, interior point, closure of set, opem curves, compact sets</li> <li>• Real sequences and their convergence, infinite series</li> <li>• Alternating series, Arbitrary test, cauchy product of seris, Riemann's Rearrangement theorem</li> </ul>                                |
| <b>Special Functions and integral transform (BHM 242)</b><br><b>(sem-4)</b> | <ul style="list-style-type: none"> <li>• Series solution of differential equation, Bessesl's function</li> <li>• Legendre and hermit differential equation</li> <li>• Laplace transform</li> <li>• Fourier transform</li> </ul>   |
| <b>Programming in C and numerical methods(BHM 243)</b><br><b>(sem -4)</b>   | <ul style="list-style-type: none"> <li>• Algorithm, flow chart, data types, operators and expressions, input, output functions</li> <li>• Decision control structure</li> <li>• Strings, structures, pointers, Array, solution of algebraic and transcendental equations</li> <li>• Simultaneous linear algebraic equations</li> </ul>  |
| <b>Hydrostatics(BHM 244)</b><br><b>(sem-4)</b>                              | <ul style="list-style-type: none"> <li>• Pressure equation, homogenous and heterogeneous fluid, lines of forces, rotating fluids</li> <li>• Stability equilibrium of floating bodies</li> <li>• Gas laws, Mixture of gases, Adiabatic expansion</li> </ul>  |
| <b>Real analysis(BHM 351)</b><br><b>(sem-5)</b>                             | <ul style="list-style-type: none"> <li>• Understand and integrability of continuous and Monotonic functions</li> <li>• To understand about improper integrals and their convergence</li> <li>• Metric spaces and cauchy sequence</li> </ul>   |

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| <b>Groups and rings(BHM 352)<br/>(sem-5)</b>               | <ul style="list-style-type: none"> <li>• To familiarize with group and it's properties</li> <li>• Learn permutations groups, centre of group and derived group</li> <li>• To familiarize with rings, subrings, integral domains and fields</li> </ul>   |
| <b>Numerical Analysis (BHM 353)<br/>(sem-5)</b>            | <ul style="list-style-type: none"> <li>• Newton's forward and backward interpolation and divided difference formulae</li> <li>• To learn about central differences and probability distribution of random variables</li> <li>• To understand about Numerical differentiation, integration and eigen value problems</li> </ul> |
| <b>Integral equations (BHM 354)<br/>(sem-5)</b>            | <ul style="list-style-type: none"> <li>• Linear, integral equations, volterra and fredholm equation</li> <li>• Construction of green function and series representation</li> <li>• Homogenous fredholm equation with symmetric kernels, methods of iterated kernels</li> </ul>  |
| <b>Methods of Applied Mathematics(BHM 355)<br/>(sem-5)</b> | <ul style="list-style-type: none"> <li>• Solution of laplace, wave and heat equations</li> <li>• Heat and wave equation in unbounded domain</li> <li>• Hankel transform of elementary functions, finite sine and cosine transform</li> </ul>  |
| <b>Real and Complex analysis<br/>(BHM 361)<br/>(sem-6)</b> | <ul style="list-style-type: none"> <li>• To familiarize with Jacobians, Beta and gamma functions</li> <li>• To understand about Fourier's series</li> <li>• To understand concept of complex numbers</li> </ul>   |
| <b>Linear algebra(BHM 362)<br/>(sem-6)</b>                 | <ul style="list-style-type: none"> <li>• To familiarize with vector spaces, subspaces, quotient space and it's dimension</li> <li>• Learn about algebra of linear transformation</li> <li>• To understand about inner product spaces, orthogonal sets and basis</li> </ul>  |
| <b>Dynamics (BHM 363)<br/>(sem-6)</b>                      | <ul style="list-style-type: none"> <li>• Understand about velocity and acceleration</li> <li>• Learn about mass, momentum and force, work, power and energy</li> <li>• Understand projectile motion of a particle in a plane, central orbit, motion in 3-D</li> </ul>   |
| <b>Elementary topology<br/>(BHM 364)<br/>(sem-6)</b>       | <ul style="list-style-type: none"> <li>• Concept of interior point, open set, close set, union and intersection</li> <li>• Continuous function, compactness and connectedness</li> <li>• First, second countable and separable space</li> </ul>   |
| <b>Fluid dynamics (BHM 365)<br/>(sem-6)</b>                | <ul style="list-style-type: none"> <li>• Eulerian and lagrangian methods, equation of continuity</li> <li>• Eulers and La Grange equation of motion, Bernoulli's equation, impulsive motion</li> <li>• Source, sink and doublets in 2-D and 3-D</li> </ul>  |

**Name of Program: B.Sc. Pass Course (Medical & Non-Medical)**

**Chemistry**



## Program Specific Outcome

Chemistry is one of the branch of the science dealing with structure and behavior of nature with molecular perspective to understand scientific reasoning. The course includes many concepts of inorganic, physical and organic chemistry

Program Objectives:

- Producing graduates who are well grounded in the fundamentals of chemistry and acquisition of the necessary skills, in order to use their knowledge in chemistry in a wide range of practical applications.
- Helps to create general understanding to become creative and successful chemists in a wide range of professions where logical approach is required.

**Course Outcomes:** After completion of this course, students will be able to ;

| Course                                      | Outcome  |
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| <b>CH – 101<br/>Inorganic<br/>Chemistry</b> | <ul style="list-style-type: none"><li>• Understand different aspect of Atomic Structure which includes de-Broglie matter waves, Heisenberg Uncertainty principle, atomic orbitals, quantum numbers, radial and angular wave functions</li><li>• Thorough understanding of different principles like Aufbau and Pauli exclusion principle, Hund's rule. Students will be able to find out electronic configuration of different elements, effective nuclear charge and Slater's rule.</li><li>• periodic property which includes Atomic and Ionic radii, Ionization energy, Electron Affinity, Electronegativity</li></ul>  |
| <b>CH-102<br/>Physical<br/>Chemistry</b>    | <ul style="list-style-type: none"><li>• To learn various properties of gaseous state i.e., Vander waal's equation of state, PV isotherm of real gases.</li><li>• To understand the concept of surface tension, vapour pressure, laws of crystallography, Bragg's equation and structure of NaCl and KCl.</li><li>• To know about liquid crystals, types of liquid crystals and applications of liquid crystals.</li></ul>  |
| <b>CH-103<br/>Organic<br/>Chemistry</b>     | <ul style="list-style-type: none"><li>• To learn chemical bonding, Resonance, Hyperconjugation, Inductive effect, E-effect.</li><li>• To understand the concept of stereochemistry, isomerism, symmetry elements, enantiomers and diastereomers.</li><li>• To differentiate configuration and conformation, R&amp;S nomenclature, and E&amp;Z nomenclature, Newman and sawhorse projection, IUPAC nomenclature, formation, physical &amp; chemical properties of Alkanes and Cycloalkanes.</li></ul>   |
| <b>CH – 201<br/>Inorganic<br/>Chemistry</b> | <ul style="list-style-type: none"><li>• Understand Hydrogen Bonding, Vander Waals Forces, Metallic Bond and Semiconductors..</li><li>• To learn about S- Block Elements and Comparative study of the elements including, diagonal relationships, P- Block Elements, comparative study of properties of p block elements, diagonal relationship.. Carbon, Catenation, carbides, fluorocarbons, silicates, silicones.</li><li>• Nitrogen Family, Oxides, structures, oxyacids structure and relative acid strengths of oxyacids of Nitrogen and phosphorus, structure of white, yellow and red phosphorus.</li><li>• Learn about Oxygen Family, Oxyacids of sulphur, Halogen Family, interhalogens, hydro and oxyacids of chlorine</li></ul> |
| <b>CH-202<br/>Physical</b>                  | <ul style="list-style-type: none"><li>• To know about the kinetics, Rate of reaction, rate equation, Order of a reaction, integrated rate expression for zero order, first order, second and</li></ul>   |

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| <b>Chemistry</b>                  | <p>third order reaction.</p> <ul style="list-style-type: none"> <li>To explain effect of temperature on the rate of reaction – Arrhenius equation. Theories of reaction rate .</li> <li>Have brief idea of Electrolytic conduction, specific, conductance, molar conductance, Debye- Huckel – Onsager's equation</li> </ul>   |
| <b>CH-203 Organic Chemistry</b>   | <ul style="list-style-type: none"> <li>To learn IUPAC nomenclature, formation, physical &amp; chemical properties of Alkenes</li> <li>To understand concept of arenes and aromaticity, general reactions of Aromatic compounds</li> <li>To learn IUPAC nomenclature, formation, physical &amp; chemical properties of dienes &amp; alkynes.</li> <li>To learn IUPAC nomenclature, formation, physical &amp; mechanism of reactions chemical properties of alkyl halides.</li> </ul>   |
| <b>CH-301 Inorganic Chemistry</b> | <ul style="list-style-type: none"> <li>To learn the chemistry of d-block element, electronic configuration, physical properties and structure of some compounds of transition elements.</li> <li>Understand the concept of coordination chemistry, nomenclature, isomerism and valence bond theory of transition metal complex.</li> </ul>  |
| <b>CH-302 Physical Chemistry</b>  | <ul style="list-style-type: none"> <li>To know about the Non Aqueous solvents (Liq <math>\text{NH}_3</math> &amp; Liq <math>\text{SO}_2</math>).</li> <li>To learn Le-Chatelier's Principle, several types of equilibrium reactions including acid-base and solubility equilibria.</li> <li>Brief idea of distribution law and its application in determination of hydrolysis constant and degree of hydrolysis.</li> </ul>   |
| <b>CH -303 Organic Chemistry</b>  | <ul style="list-style-type: none"> <li>Basic nature, nomenclature, methods of preparation and the physical and chemical properties of alcohols.</li> <li>Synthesis of epoxides. Acid and base-catalyzed ring opening of epoxides, orientation of epoxide ring opening, reactions of Grignard and organolithium reagents with epoxides.</li> <li>Nomenclature, structure and bonding, preparation, properties and Chemical reactions of phenols.</li> <li>The basic concepts of UV spectroscopy, its principle, Bathochromic and hypsochromic shift, Woodward Fieser rules, calculation of absorption maxima of conjugated dienes and enones and its application.</li> </ul> |
| <b>CH-401 Inorganic Chemistry</b> | <ul style="list-style-type: none"> <li>To learn the chemistry of lanthanide, physical properties and their occurrence.</li> <li>To learn the chemistry of actinides, physical properties and comparison of properties of lanthanide and actinides.</li> <li>To understand the theory, techniques and reactions of qualitative and quantitative inorganic analysis</li> </ul>  |
| <b>CH-402 Physical Chemistry</b>  | <ul style="list-style-type: none"> <li>To know basic understanding of thermodynamic parameters such as the internal energy, enthalpy, entropy, and Gibbs free energy.</li> <li>To know the Laws of Thermodynamics and can apply them to determine the spontaneity of a reaction, Students will know how to calculate the equilibrium constant from the thermodynamic parameters.</li> <li>To recognize and balance oxidation-reduction reactions, recognize the different types of electrochemical cells, to calculate the cell potential from standard cell potential and using the Nernst Eqn.</li> </ul>   |

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| <b>CH-403<br/>Organic<br/>Chemistry</b>   | <ul style="list-style-type: none"> <li>To learn Infrared (IR) absorption spectroscopy, different types of Molecular vibrations, Hooke's law, selection rules, intensity and position of IR bands, measurement of IR spectrum.</li> <li>Structure, nomenclature and physical properties of amines, Separation of a mixture of amines. Structural features affecting basicity of amines..Gabriel Phthalimide reaction, Hofmann Bromamide reaction,</li> <li>To learn Wittig reaction, Mannich reaction, Oxidation of aldehydes, Baeyer–Villiger oxidation of ketones, Cannizzaro reaction. MPV, Clemmensen, Wolff-Kishner.</li> </ul>  |
| <b>CH-501<br/>Inorganic<br/>Chemistry</b> | <ul style="list-style-type: none"> <li>A brief outline of thermodynamic and kinetic aspects of metal complexes, its factors, Irving William series, trans effect and substitution reactions..</li> <li>To understand magnetic behaviour susceptibility and its methods, LS coupling, spin only formula and applications of magnetic moment data of 3D metal complexes.</li> <li>To understand selection rule of d-d transition, types of electronic transitions, spectrochemical series, Orgel energy level diagram of <math>d^1</math> and <math>d^9</math> states with electronic spectrum of <math>[\text{Ti}(\text{H}_2\text{O})_6]^{3+}</math> complex ion.</li> </ul>  |
| <b>CH-502<br/>Physical<br/>Chemistry</b>  | <ul style="list-style-type: none"> <li>To understand and solve Schrodinger's equation for standard systems, wave function and apply operators to it to obtain information about particle's physical properties such as position, momentum and energy.</li> <li>Understand the role of uncertainty in quantum mechanics and use the commutation relations of operators.</li> <li>To know about Clausius-Mossotti equation, dipole moment and structure of molecule and applications of magnetic susceptibility, magnetic properties.</li> <li>Students will be able to understand the spectroscopy terms i.e., degree of freedom, Born-ppenheimer approximation, electromagnetic radiations, Rotational spectrum, Vibrational spectrum and Raman spectrum.</li> </ul> |
| <b>CH -503<br/>Organic<br/>Chemistry</b>  | <ul style="list-style-type: none"> <li>NMR spectroscopy and its principles, different organic compounds on the basis of NMR Spectra of different compounds</li> <li>Carbohydrates and their classification as monosaccharide, disaccharide and polysaccharide, Osazone formation Ring size determination, open and cyclic structure.</li> <li>Structure of different disaccharides like Sucrose, Maltose and Lactose and other polysaccharides.</li> <li>Organometallic compounds like Grignard reagent, Organozinc and Organolithium and their properties.</li> </ul>   |
| <b>CH-602<br/>Physical<br/>Chemistry</b>  | <ul style="list-style-type: none"> <li>To understand Concept of potential energy curves for bonding and antibonding molecular orbitals, qualitative description of selection rules and Franck- Condon principle.</li> <li>To apply the laws of photochemistry Grotthus-Draper law, Stark- Einstein law (law of photochemical equivalence) Jablonski diagram.</li> <li>To know about the Ideal and non-ideal solutions, Raoult's law, relative lowering of vapour pressure, molecular weight determination, Osmosis determination of molecular weight from osmotic pressure and elevation of boiling point.</li> </ul>  |
| <b>Code -603<br/>Organic</b>              | <ul style="list-style-type: none"> <li>To learn Heterocyclic Compound, mechanism of nucleophilic substitution reactions in pyridine derivatives. Comparison of basicity of pyridine,</li> </ul>  |

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| <b>Chemistry</b> | <p>piperidine and pyrrole. Condensed five and six membered heterocycles. Organosulphur Compounds, Nomenclature, structural features.</p> <ul style="list-style-type: none"> <li>To understand Organic Synthesis via Enolates, Acidity of hydrogens, alkylation of diethyl malonate and ethyl acetoacetate. Synthesis of ethyl acetoacetate-Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate.</li> </ul> |
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## Physics

### Program Specific Outcomes

- The accumulation of facts of nature and the ability to link the facts to observe and discover the laws of nature i.e. develop an understanding and knowledge of the basic Physics.
- The ability to use this knowledge to analyze new situations and learn skills and tools like mathematics, engineering and technology to find the solution, interpret the results and make predictions for the future developments.
- The ability to synthesize the acquired knowledge, understanding and experience for a better UGC Document on LOCF Physics 2 and improved comprehension of the physical problems in nature and to create new skills and tools for their possible solutions.

### Course Outcomes

| <b>Paper</b>                             | <b>Course Outcome</b>   |
|--|---|
| PHY-101<br><br>Mechanics                 | <p>After going through the course, the student should be able to</p> <ul style="list-style-type: none"> <li>Understand laws of motion and their application to various dynamical situations, notion of inertial frames and concept of Galilean invariance. He / she will learn the concept of conservation of energy, momentum, angular momentum and apply them to basic problems.</li> <li>Understand the analogy between translational and rotational dynamics, and application of both motions simultaneously in analyzing rolling with slipping.</li> <li>Write the expression for the moment of inertia about the given axis of symmetry for different uniform mass distributions.</li> </ul>  |
| PHY-102<br><br>Electricity And Magnetism | <p>The student should be able to</p> <ul style="list-style-type: none"> <li>Demonstrate Gauss law, Coulomb's law for the electric field, and apply it to systems of point charges as well as line, surface, and volume distributions of charges.</li> <li>Explain and differentiate the vector (electric fields, Coulomb's law) and scalar (electric potential, electric potential energy) formalisms of electrostatics.</li> <li>Apply Gauss's law of electrostatics to solve a variety of problems.</li> <li>Describe the magnetic field produced by magnetic dipoles and electric currents.</li> <li>Explain Faraday-Lenz and Maxwell laws to articulate the relationship between electric and magnetic fields.</li> <li>Understand the dielectric properties, magnetic properties of materials and the phenomena of electromagnetic induction.</li> </ul> |

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| PHY-201<br>Properties Of<br>Matters, Kinetic<br>Theory And<br>Relativity<br>PHY-202<br>Electromagnetic<br>Induction And<br>Electronic Devices | <ul style="list-style-type: none"> <li>• Understand the principles of elasticity through the study of Young Modulus and modulus of rigidity.</li> <li>• Understand simple principles of fluid flow and the equations governing fluid dynamics.</li> <li>• Learn the basic aspects of kinetic theory of gases, Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions, viscosity, thermal conductivity, diffusion and Brownian motion.</li> <li>• Describe special relativistic effects and their effects on the mass and energy of a moving object.</li> </ul> <p>.</p> <ul style="list-style-type: none"> <li>• Learn about basics of electromagnetic induction and further study about decay and growth of current in a circuit.</li> <li>• Understand the AC circuit analysis using complex variables in series and parallel resonant circuit.</li> <li>• Basic knowledge of semiconductor diodes by studying energy band in solids, applications of PN junction in half and full wave rectifier, zener diode as voltage regulator.</li> </ul> <p>Learn about transistors and transistors amplifiers in various configurations. Further studied principle of oscillation, classification and various types of oscillators.</p> |
| PHY-301<br>Optics- I  | <p>This course will enable the student to</p> <ul style="list-style-type: none"> <li>• Apply basic knowledge of principles and theories about the behavior of light and the physical environment to conduct experiments.</li> <li>• Understand the principle of superposition of waves, so thus describe the formation of standing waves.</li> <li>• Learn the Fourier analysis of periodic functions and their applications in physical problems.</li> <li>• Apply knowledge of Matrix method in paraxial optics to find final position of image.</li> <li>• Understand about various lens aberrations like Chromatic, Spherical, coma etc. and methods to remove them.</li> <li>• Understand the concept of interference of light in young's double slit experiment, the working of optical instruments like biprism, Ilyod's Mirror.</li> </ul>  |
| PHY-302<br>Computer<br>Programing And<br>Thermodynamics   | <ul style="list-style-type: none"> <li>• Learn the importance of computers in solving problems in Physics.</li> <li>• Learn how to plan for writing the algorithm for solving a problem by drawing the flowchart of simple problems like roots of quadratic equations etc.</li> <li>• Learn, write and run FORTRAN programs.</li> <li>• Comprehend the basic concepts of thermodynamics, the first and the second law of thermodynamics, the concept of entropy and the associated theorems, the thermodynamic potentials and their physical</li> </ul>   |

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|                                  | <p>interpretations.</p> <ul style="list-style-type: none"> <li>Learn about Maxwell's thermodynamic relations.</li> </ul> <p>Learn about the real gas equations, Van der Waal equation of state, the Joule Thompson effect.</p>   |
| PHY-401<br>Optics-Ii             | <ul style="list-style-type: none"> <li>Explain several phenomena we can observe in everyday life that can be explained as wave phenomena.</li> <li>Use the principles of wave motion and superposition to explain the Physics of polarisation, interference and diffraction.</li> </ul> <p>Understand the working of selected optical instruments like interferometer, diffraction grating, polarimeter etc</p>  |
| PHY-402<br>Statistical Mechanics | <ul style="list-style-type: none"> <li>Understand the combinatory studies of particles with their distinguishably or indistinguishably nature and conditions which lead to the three different distribution laws e.g. Maxwell-Boltzmann distribution, Bose-Einstein distribution and Fermi-Dirac distribution laws of particles and their derivation.</li> <li>Comprehend and articulate the connection as well as dichotomy between classical statistical mechanics and quantum statistical mechanics.</li> <li>Learn to apply the classical statistical mechanics to derive the law of equipartition of energy and specific heat.</li> <li>Learn to derive classical laws of black body radiation.</li> <li>Learn to calculate the macroscopic properties of degenerate photon gas using BE distribution law, understand Bose-Einstein condensation law.</li> <li>Understand the concept of Fermi energy and Fermi level, calculate the macroscopic properties of completely and strongly degenerate Fermi gas, electronic contribution to specific heat of metals.</li> </ul> |
| PHY-501<br>Quantum Mechanics     | <ul style="list-style-type: none"> <li>Know main aspects of the inadequacies of classical mechanics and understand historical development of quantum mechanics and ability to discuss and interpret experiments that reveal the dual nature of matter.</li> <li>Understand the theory of quantum measurements, wave packets and uncertainty principle.</li> <li>Understand the central concepts of quantum mechanics: wave functions, momentum and energy operator, the Schrodinger equation, time dependent and time independent cases, probability density and the normalization techniques, skill development on problem solving e.g. one dimensional rigid box, tunneling through potential barrier, step potential, rectangular barrier.</li> </ul>   |
| PHY-502<br>Solid State Physics   | <p>At the end of the course the student is expected to learn and assimilate the following.</p> <ul style="list-style-type: none"> <li>A brief idea about crystalline and amorphous substances, about lattice, unit cell, miller indices, reciprocal lattice, concept of Brillouin zones and diffraction of X-rays by crystalline materials.</li> <li>Knowledge of lattice vibrations and in depth of knowledge of Einstein and Debye theory of specific heat of solids.</li> </ul>   |

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| <p>PHY-601</p> <p>Nuclear Physics</p>                     | <ul style="list-style-type: none"> <li>● Learn the ground state properties of a nucleus – the constituents and their properties, mass number and atomic number, relation between the mass number and the radius, average density, range of force, saturation property, stability curve, the concepts of packing fraction and binding energy, binding energy per nucleon vs. mass number graph, explanation of fusion and fission from the nature of the binding energy graph.</li> <li>● Learn some basic aspects of interaction of nuclear radiation with matter- interaction of gamma ray by photoelectric effect, Compton scattering and pair production, energy loss due to ionization, Cerenkov radiation.</li> <li>● Learn about the process of radioactivity, the radioactive decay law, the emission of alpha, beta and gamma rays, the properties of the constituents of these rays and the mechanisms of the emissions of these rays, outlines of Gamow's theory of alpha decay and Pauli's theory of beta decay with the neutrino hypothesis, the electron capture, the fine structure of alpha particle spectrum, the Geiger-Nuttall law, the radioactive series.</li> <li>● Understand various interactions of electromagnetic radiation with matter. Electron positron pair creation.</li> <li>● Learn the basic aspects of nuclear reactions, the Q-value of such reaction and its derivation from conservation laws, the reaction cross-sections, the types of nuclear reactions, direct and compound nuclear reactions, Rutherford scattering by Coulomb potential.</li> <li>● Learn about the detectors of nuclear radiations- the Geiger-Mueller counter, the scintillation counter, the photo-multiplier tube, the solid state and semiconductor detectors.</li> <li>● The students are expected to learn about the principles and basic constructions of particle accelerators such as the Van-de-Graff generator, cyclotron, betatron and synchrotron. They should know about the accelerator facilities in India.</li> <li>● Understand fission and fusion well as nuclear processes to produce nuclear energy in nuclear reactor and stellar energy in stars.</li> </ul> |
| <p>PHY-602</p> <p>Atomic, Molecular And Laser Physics</p> | <ul style="list-style-type: none"> <li>● Gain Knowledge about the background of Atomic spectroscopy that includes Bohr atomic model, Sommerfeld's relativistic correction and the idea of Vector Atom Model for both single and two valence electrons.</li> <li>● Apply the Coupling Schemes (L-S and JJ) to various configurations.</li> <li>● Learn about the effect of External Magnetic and Electric field on an atom i.e. Zeeman effect, Paschan- Back effect and Stark effect.</li> <li>● Know about the basic molecular spectra like Rotational spectra, Vibrational spectra, Raman effect and Electronic spectra.</li> <li>● Understand the spontaneous and stimulated emission of radiation, optical pumping and population inversion. Three level and four level lasers. Ruby laser and He-Ne laser in details. Basic lasing.</li> </ul>   |

## **Zoology**

### **Program Specific Outcomes**

- Analyze various physiological changes in our bodies and impact of environment on our bodies.
- Understand various genetic abnormalities and the role and impact of different environmental conservation programs.
- Identify animals beneficial to humans and identify various potential risk factors to health of humans.
- Use tools of information technology for all activities related to zoology

**Course Outcomes** : After completion of these courses students should be able to;

| Course  | Outcome  |
|---|--|
| Zoo 1.1<br>LIFE AND DIVERSITY FROM<br>PROTOZOA TO HEMINTHES         | <ul style="list-style-type: none"><li>• Identified the taxonomic status of the entire non-chordates up to helminthes and discuss the evolutionary model of the group</li><li>• Described the general biology of few selected non-chordates useful to mankind.</li><li>• Know about some of the important and common protozoans, helminthes of parasitic- nature causing diseases in human beings</li></ul> |
| ZOO. 1.2.<br>CELL BIOLOGY   | <ul style="list-style-type: none"><li>• Gain knowledge about cell and its function.</li><li>• Learn the scope and importance of molecular biology.</li><li>• Understand ultra structure of cell wall, plasma membrane and cell organelles.</li><li>• Understand the biochemistry of cell.</li><li>• Understand the biochemical nature of nucleic acid and their role in living systems.</li></ul>          |
| ZOO.2.1.<br>LIFE AND DIVERSITY FROM<br>ANNELIDS TO<br>HEMICHORDATES | <ul style="list-style-type: none"><li>• Understood the importance of metamerism in annelids.</li><li>• Understood the diversity and classification and functional.</li><li>• Aspects of different systems of phylum Arthropoda, Mollusca and Echinodermata.</li><li>• Came to know that the resemblance and evolutionary significance of larval forms of echinoderms.</li></ul>                            |
| ZOO.2.2.<br>GENETICS  | <ul style="list-style-type: none"><li>• Understand the Mendelian and neo Mendelian genetics.</li><li>• Know about interaction of genes, multiple alleles and linkage and crossing over.</li><li>• Know about sex linked inheritance, chromosomal aberrations.</li><li>• Know the evolutionary sequence of various groups of plants.</li></ul>  |
| ZOO.3.1<br>LIFE AND DIVERSITY OF<br>CHORDATES-1                     | <ul style="list-style-type: none"><li>• Identified the taxonomic status of the chordates and discussed the evolutionary model of the group.</li><li>• Imparted the knowledge on ecology of some important fishes.</li><li>• Impart knowledge in comparative anatomy and</li></ul>  |



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|  | development systems of chordates.  |
| ZOO.3.2.<br>MAMMALIAN PHYSIOLOGY-1           | <ul style="list-style-type: none"> <li>• Introduction, classification and functions of carbohydrates, lipids and proteins.</li> <li>• Types of nutrition and muscles</li> <li>• Structure and types of bones and their growth.</li> </ul>  |
| ZOO.4.1<br>LIFE AND DIVERSITY OF CHORDATES-2 | <ul style="list-style-type: none"> <li>• To study about origin and evolutionary tree of amphibian.</li> <li>• Type study of Lizards its origin and evolutionary tree.</li> <li>• Study about extinct reptiles and poisonous and non-poisonous scale.</li> <li>• Flight adaptations and migration in birds</li> <li>• Classification and type study of mammals</li> </ul> |
| ZOO.4.2.<br>MAMMALIAN PHYSIOLOGY-2           | <ul style="list-style-type: none"> <li>• To study about circulation, excretion and respiration.</li> <li>• Study about neural integration and chemical integration of endocrinology.</li> <li>• To understand reproduction in humans.</li> </ul>   |
| ZOO.5.1.<br>FISH AND FISHERIES               | <ul style="list-style-type: none"> <li>• Introduction to world fisheries</li> <li>• Knowledge about fresh water fishes of India, fishing craft and gears.</li> <li>• Mollusks and their culture.</li> <li>• Seed production, field culture and culture technology.</li> </ul>  |
| ZOO.5.2.<br>ECOLOGY AND EVOLUTION            | <ul style="list-style-type: none"> <li>• Know the biotic and abiotic components of ecosystem.</li> <li>• Food chain &amp; food web in ecosystem.</li> <li>• Scope, importance and management of biodiversity.</li> <li>• Concept of macro and mega evolution</li> <li>• Phylogeny of horse and evolution of man.</li> </ul>  |
| ZOO.6.1.<br>ENTOMOLOGY                       | <ul style="list-style-type: none"> <li>• To study important insect pest of crops and vegetables.</li> <li>• Insect control, chemical control and biological control.</li> <li>• Important bird and rodent pests of agriculture and their management.</li> </ul>  |
| ZOO.6.2.<br>DEVELOPMENTAL BIOLOGY            | <ul style="list-style-type: none"> <li>• Understood the process of development of animals.</li> <li>• Understood the process of organogenesis of selected organs, development of extra embryonic membrane and the nature and physiology of placenta.</li> <li>• Different stages of chick embryo development and placentation of animals.</li> </ul>                     |

## **Botany**

### **Program Specific Outcomes**

- Students acquired knowledge through practical work in fields as well as in laboratory.
- To explain basis plant of life, reproduction and their survival in nature.
- Helped to understand role of living and fossil plants in our life. Understand good laboratory practices and safety.
- To create awareness about cultivation, conservation and sustainable utilization of biodiversity.
- To know advance techniques in plant sciences like tissue culture, Phytoremediation, plant disease management, formulation of new herbal drugs etc.

### **Course Outcomes:**

After completion of these courses' students should be able to:

| Course  | Outcome   |
|---|---|
| Bot.1.1.<br>Diversity of Microbes               | <ul style="list-style-type: none"> <li>• Study of cryptogams to understand their Diversity.</li> <li>• Know the systematic, morphology and structure of algae, fungi.</li> <li>• Know life cycle pattern of cryptogams.</li> <li>• Know economic importance of cryptogams.</li> <li>• Know evolution of algae, fungi.</li> </ul>  |
| Bot.1.2.<br>Cell Biology                        | <ul style="list-style-type: none"> <li>• Gain knowledge about cell and its function.</li> <li>• Learn the scope and importance of molecular biology.</li> <li>• Understand ultra-structure of cell wall, plasma membrane and cell organelles.</li> <li>• Understand the biochemistry of cell.</li> <li>• Understand the biochemical nature of nucleic acid and their role in living systems.</li> </ul>   |
| Bot.2.1.<br>Diversity of Archegoniates          | <ul style="list-style-type: none"> <li>• Study of archegoniate to understand their Diversity.</li> <li>• Know the systematic, morphology and structure of bryophytes, and Pteridophytes.</li> <li>• Know life cycle pattern of archegoniate.</li> <li>• Know economic importance of cryptogams.</li> <li>• Know evolution of bryophytes and Pteridophytes.</li> </ul>   |
| Bot.2.2.<br>Genetics                            | <ul style="list-style-type: none"> <li>• Understand the Mendelian and neo-Mendelian genetics.</li> <li>• Know about interaction of genes, multiple alleles and linkage and crossing over.</li> <li>• Know about sex linked inheritance, chromosomal aberrations.</li> <li>• Know the evolutionary sequence of various groups of plants.</li> </ul>  |
| Bot.3.1<br>Biology & Diversity of Seed Plants-1 | <ul style="list-style-type: none"> <li>• Systematic study of gymnosperms.</li> <li>• Understand the morphological and reproductive character of spermatophytic plants.</li> <li>• Understand economic importance of gymnosperms and angiosperms.</li> <li>• Understand the diversity among spermatophyte.</li> <li>• To bring investigation of palaeobotanical study in India.</li> <li>• Know, scope and application of Paleobotany.</li> <li>• Know types of fossils, geological time scale.</li> </ul> |
| Bot.3.2.<br>Plant Embryology                    | <ul style="list-style-type: none"> <li>• To study about Plant embryology.</li> <li>• Study Microsporogenesis and megasporogenesis.</li> <li>• Embryogenesis in Dicot and Monocot.</li> <li>• To study Polyembryony.</li> <li>• Structure of Dicot and Monocot seed.</li> <li>• Dispersal mechanisms in fruits and seeds.</li> </ul>   |
| Bot.4.1<br>Biology & Diversity of Seed Plants-2 | <ul style="list-style-type: none"> <li>• Systematic study of angiosperms.</li> <li>• Understand the morphological and reproductive character of angiospermic plants.</li> <li>• Understand economic importance of angiosperms.</li> <li>• Understand the diversity among angiosperms.</li> </ul>  |
| Bot.4.2.<br>Plant Embryology                    | <ul style="list-style-type: none"> <li>• To study microsporogenesis and megasporogenesis.</li> <li>• Study about male gametogenesis and female gametogenesis.</li> <li>• Study about endosperm and its type.</li> </ul>   |

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|   | <ul style="list-style-type: none"> <li>• Understand about double fertilization in plants.</li> <li>• Structure of monocot and dicot seeds.</li> <li>• Fruit type and dispersal.</li> </ul>   |
| Bot.5.1.<br>Plant Physiology                      | <ul style="list-style-type: none"> <li>• Know scope and importance of plant physiology.</li> <li>• Understand plant &amp; water relation.</li> <li>• Understand process of photosynthesis, C3, C4, CAM pathways.</li> <li>• Understand the process of respiration, growth and developmental process in plant.</li> </ul>   |
| Bot.5.2.<br>Ecology                               | <ul style="list-style-type: none"> <li>• Know the biotic and abiotic components of ecosystem.</li> <li>• Food chain &amp; food web in ecosystem.</li> <li>• Understand diversity among various groups of plant kingdom.</li> <li>• Understand plant community &amp; ecological adaptation in plants.</li> <li>• Scope, importance and management of biodiversity.</li> </ul>   |
| Bot.6.1.<br>Biochemistry & Plant<br>Biotechnology | <ul style="list-style-type: none"> <li>• Understand the fundamental of recombinant DNA technology.</li> <li>• Understand tissue culture techniques.</li> <li>• Role of microbes in agriculture, medicine &amp; industry.</li> <li>• Know the fermentation technology.</li> <li>• Understand the concept of bioinformatics, genomics &amp; proteomics.</li> <li>• Understand technical germplasm &amp; cryopreservation.</li> </ul> |
| Bot.6.2.<br>Economic Botany                       | <ul style="list-style-type: none"> <li>• Understand scope and importance of pharmacognosy.</li> <li>• Know the cultivation, collection, processing &amp; importance of various herbal drugs.</li> <li>• Understand the scope of economic botany.</li> <li>• Know the botanical resources like non wood forest products.</li> <li>• Understand the concept of Ayurvedic pharmacy.</li> </ul>  |

## **Name of Program : B.Sc. Biotechnology**

### **Program Outcomes**

- Student can describe morphological & reproductive characters of plant and also identified different plant families and classification.
- Bioanalytical tools give them incites to technological advancements of this subject.
- To inculcates the scientific temperament in the students and outside the scientific community.
- They know about advanced technologies used in Biotechnology.
- Under practical study they are acquainted with knowledge of centrifuge, autoclave, laminar air flow, electrophoresis etc.

### **Program Specific Outcomes**

- Students acquired knowledge through theory as well as in laboratory.
- They learn pathogenic basis of disease.
- Generation and types of vaccines.
- Advancements and uses of Recombinant DNA technology.
- Plant Biotechnology as the basis of crop improvement.
- Genetic engineering of both plants and animals.

- Understand good laboratory practices and safety.

## **Course Outcomes**

After completion of these courses' students should be able to

| <b>Course</b>                               | <b>Outcome</b>  |
|---|---|
| Biotechnology Ist.<br>Diversity of Microbes | <ul style="list-style-type: none"> <li>• Study of cryptogams to understand their Diversity.</li> <li>• Know the systematic, morphology and structure of algae, fungi.</li> <li>• Know life cycle pattern of cryptogams.</li> <li>• Know economic importance of cryptogams.</li> <li>• Know evolution of algae, fungi.</li> </ul>  |
| Biotechnology Ist Cell<br>Biology           | <ul style="list-style-type: none"> <li>• Gain knowledge about cell and its function.</li> <li>• Learn the scope and importance of molecular biology.</li> <li>• Understand ultra structure of cell wall, plasma membrane and cell organelles.</li> <li>• Understand the biochemistry of cell.</li> <li>• Understand the biochemical nature of nucleic acid and their role in living systems.</li> </ul>                                 |
| Biotechnology IInd Genetics                 | <ul style="list-style-type: none"> <li>• Understand the Mendelian and neo-Mendelian genetics.</li> <li>• Know about interaction of genes, multiple alleles and linkage and crossing over.</li> <li>• Know about sex linked inheritance, chromosomal aberrations.</li> <li>• Know the evolutionary sequence of various groups of plants.</li> <li>• Know linkage and crossing over.</li> <li>• Know non Mendelian principles.</li> </ul> |
| Biotechnology IInd Animal<br>diversity I    | <ul style="list-style-type: none"> <li>• Study invertebrates.</li> <li>• Study the classification of invertebrates into various classes.</li> <li>• Know the economic importance of some invertebrates.</li> </ul>  |
| Biotechnology IInd<br>Microbiology          | <ul style="list-style-type: none"> <li>• Study the fundamentals of microbiology.</li> <li>• Study the classification of microorganisms and microbial diversity.</li> <li>• Study the cultivation and maintenance of microbes.</li> <li>• Study the microbial growth, microbial metabolism and bacterial reproduction.</li> <li>• Study the control of microbes.</li> </ul>  |

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| Biotechnology 3 <sup>rd</sup> sem<br>Medical Microbiology                 | <ul style="list-style-type: none"> <li>• Study morphology, pathology, symptoms of disease, their treatment, and general prevention caused by bacteria, viruses, fungi, and protozoans.</li> <li>• Study the gram's staining and classify the bacteria on this basis.</li> <li>• Study about Nosocomial infections, their mode of transmission and preventions.</li> <li>• Study various virulanc factors.</li> </ul> |
| Biotechnology<br>3 <sup>rd</sup><br>Plant Physiology                      | <ul style="list-style-type: none"> <li>• Know scope and importance of plant physiology.</li> <li>• Understand plant &amp; water relation.</li> <li>• Understand process of photosynthesis, C3, C4,CAM pathways.</li> <li>• Understand the process of respiration, growth and developmental process in plant.</li> </ul>  |
| Biotechnology 4 <sup>th</sup> Molecular<br>biology Bioanalytical<br>Tools | <ul style="list-style-type: none"> <li>• To study structure, function of biomolecule.</li> <li>• DNA replication and repair.</li> <li>• Transcription and translation.</li> <li>• Post translation modifications</li> <li>• Study about Biotechnology tools such as centrifuge, autoclave, microscope, chromatography, spectrometer, electrophoresis etc</li> </ul>  |
| Biotechnology 4 <sup>th</sup> sem<br>Animal diversity 2                   | <ul style="list-style-type: none"> <li>• Study the protochordatec.</li> <li>• Study the classification, general characters of pisces, amphibians, reptiles, aves, mammals.</li> <li>• Study the comparative anatomy of various system of vertebrates.</li> </ul>   |
| Biotechnology 4 <sup>th</sup> sem<br>Animal developmental<br>biology      | <ul style="list-style-type: none"> <li>• Study the gametogenesis and fertilization.</li> <li>• Study the early embryonic development.</li> <li>• Study the embryonic differentiation.</li> <li>• Study the organogenesis.</li> </ul>   |
| Biotechnology 4 <sup>th</sup> sem<br>Mammalian physiology                 | <ul style="list-style-type: none"> <li>• Study the digestion and respiration in mammals.</li> <li>• Study the circulation.</li> <li>• Study muscle physiology and osmoregulation.</li> <li>• Study the nervous and endocrine coordination.</li> </ul>  |

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| Biotechnology IV Diversity of Plants   | <ul style="list-style-type: none"> <li>• Study of archegoniate to understand their Diversity.</li> <li>• Know the systematic, morphology and structure of bryophytes, and Pteridophytes.</li> <li>• Know life cycle pattern of archegoniate.</li> <li>• Know economic importance of cryptogams.</li> <li>• To study gymnosperms</li> <li>• Know evolution of bryophytes and Pteridophytes.</li> <li>• Dispersal mechanisms in fruits and seeds.</li> </ul> |
| Biotechnology 5 <sup>th</sup><br>Immunology<br>Recombinant DNA technology<br>Proteomics and Genomics | <p>Study of human immune systems its components and their functions.</p> <p>Recombinant DNA technology give knowledge about gene transfer methods and their advancement.</p> <p>Proteomics and genomics acquaint students of Genome sequencing and proteins sequencing.</p> <p>Bioinformatics give knowledge of computer tools and software used in field of Biotechnology.</p>  |
| Biotechnology 5 <sup>th</sup> IPR<br>bioethics and bio safety  | <ul style="list-style-type: none"> <li>• Knowledge to patent filing, patent rules copyright</li> <li>• Bioethics and their implications in Biotechnology studies.</li> <li>• Understand biosafety and good laboratory practice.</li> <li>• Importance of good manufacturing practices.</li> </ul>  |
| Biotechnology VI <sup>th</sup><br>Plant<br>Biotechnology   | <ul style="list-style-type: none"> <li>• Understand the fundamental of recombinant DNA technology.</li> <li>• Understand tissue culture techniques.</li> <li>• Role of microbes in agriculture, medicine &amp; industry.</li> </ul>  |
| Animal<br>Biotechnology<br>Bioprocess<br>technology  | <ul style="list-style-type: none"> <li>• Know the fermentation technology.</li> <li>• Understand the concept of bioinformatics, genomics &amp; proteomics.</li> <li>• Understand technical germplasm &amp; cryopreservation.</li> </ul>  |
| Biotechnology 6 <sup>th</sup><br>Bioprocess<br>technology  | <ul style="list-style-type: none"> <li>• Understand scope and importance of bioprocess technology.</li> <li>• Know the culture processing &amp; importance of various antibiotics, proteins and hormones</li> <li>• Understand the scope of fermentation techniques</li> <li>• Knowledge of structure and function of fermenters</li> </ul>  |

## **Program Outcomes**

- Focus on preparing students for roles pertaining to computer application and IT industry.
- Get skill and info not only about computer and IT but also in common, organization and management.
- Learn Program Language C, C++, Java, VB, Net, HTML, SQL/Oracle and various packages and IT techniques.
- BCA gives a number of opportunities to individuals to go ahead and shine in their lives.
- A few of them being like software programmer, system/ network/ database administrator, web designer, faculty for computer science and applications.

## **Program Specific Outcomes**

- Explore technical comprehension in varied areas of computer applications and experience a conducive environment in cultivating skills for thriving career and higher studies.
- Explore and build up computer programs in the allied areas like Algorithms, System software, Multimedia, Web designer and data analytics for efficient design and computer based system

## **Course Outcomes**

| Semester- 1   |   |
|---|---|
| Paper Code: BCA-101<br>Subject- Computer and Programming<br>Fundamental | <ul style="list-style-type: none"><li>• Bridge the fundamental subject of computers with the present level of knowledge of the students</li><li>• Student will develop vocabulary of key terms related to computer.</li></ul>   |
| Paper Code: BCA-102<br>Subject-PC Software                              | <ul style="list-style-type: none"><li>• To understand the concept of MS windows and MS office (Word, Excel, PowerPoint)</li><li>• Also includes the concept of O.S. (Operating System)</li></ul>  |
| Paper Code: BCA-103<br>Subject- Mathematics                             | <ul style="list-style-type: none"><li>• After completion of this course, students will be able to</li><li>• Understand about sets, determinants and matrices.</li><li>• Learn the concept of limits and continuity and relations and functions.</li><li>• Attain knowledge of differentiation.</li><li>• Understand the concept of integration.</li></ul>   |
| Paper Code: BCA-104<br>Subject: logical organization of Computer –I     | <ul style="list-style-type: none"><li>• Understand the concept of Number Systems and Character Representation.</li><li>• Represent numbers and perform arithmetic operations.</li><li>• Understand Digital Signals, Basic building blocks and Circuit Design.</li><li>• Minimize the Boolean expression using Boolean algebra, Venn diagram and K-Map and design it using logic gates.</li><li>• Analyze and design combinational circuits.</li></ul> |
| Semester- 2   |   |

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| Code- BCA-106<br>Subject- 'C' Programming                                    | <ul style="list-style-type: none"> <li>• To understand the concept of C language</li> <li>• Also includes all operators making conditional strategies loops (in repetitive form).</li> <li>• To understand the concept of functions, arrays, pointers structures</li> </ul>   |
| Paper Code: BCA-107<br>Subject: logical organization of Computer –II         | <ul style="list-style-type: none"> <li>• Analyze and design sequential Logic and circuits.</li> <li>• Understand the concept of memory and I/O Devices and their controllers.</li> <li>• Understand instruction design and I/O organization.</li> </ul>   |
| Paper Code: BCA-108<br>Subject: Mathematical foundations of computer science | <ul style="list-style-type: none"> <li>• At the end of this course students should be able to understand about algorithms its merits and demerits.</li> <li>• Attain knowledge of graph theory.</li> <li>• Learn about trees and recursion.</li> <li>• Learn about number theory.</li> <li>• Understand the concept of recurrence relations.</li> </ul>                           |
| Paper Code: BCA-109<br>Subject: SAD  | <ul style="list-style-type: none"> <li>• The course material encompasses the concepts, tools and techniques required to analyse and design business information system.</li> <li>• This module aim to as to introduce variety of new software used as analyst, designers to manage projects, analyse and document system, design new system and implement their plans.</li> </ul> |
| Semester- 3  |   |
| Paper Code: BCA- 201<br>Subject: Operating System                            | <ul style="list-style-type: none"> <li>• Demonstrate the computer system resources, management policies and algorithm</li> <li>• Understand the process management policies, scheduling of process by CPU.</li> <li>• Describe the memory management and its allocation policies.</li> <li>• Identify the need to create the special purpose OS.</li> <li>•</li> </ul>            |
| Code - BCA -202<br>Subject - Data Structure -I<br>(Using 'C' Language)       | <ul style="list-style-type: none"> <li>• Concepts of Data Structure, Operations, Applications.</li> <li>• Includes advance functions of Arrays and Linked - List ( Singly, Doubly, Header, Circular and Threaded)</li> <li>• Tree &amp; its Working in the form of Binary Tree &amp; Traversal using stacks</li> <li>• Graph terminology both sequential and linked</li> </ul>    |
| Paper Code: BCA- 203<br>Subject: Database Management System                  | <ul style="list-style-type: none"> <li>• Understand the basics and concept of database systems</li> <li>• And ability to use current techniques, skills and tools necessary for computing practice.</li> </ul>  |



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|  | <ul style="list-style-type: none"> <li>• Design implement and evaluate a Computer based system, process, component or a program to meet desired needs.</li> </ul>   |
| Code- BCA- 204<br>Subject- Communication Skills (English)                              | <ul style="list-style-type: none"> <li>• Introduction to Basics of Communication (Features, Process and Model), barriers to effective communication.</li> <li>• Improving LSRW</li> <li>• Basic Vocabulary (improving tips), Prefix/Suffix, Synonyms, Antonyms, One word substitution and spellings.</li> <li>• Developing frequency (Conjunction, Auxiliaries, Preposition, Articles, and Tenses etc.)</li> </ul>  |
| Semester- 4  |   |
| BCA- 206<br>Subject : Web Designing  | <ul style="list-style-type: none"> <li>• Describe the method on designing forms on web page: text box, password box, check box, radio button, drop down menu, submit and reset button.</li> <li>• Define how to draw a webpage using HTML</li> <li>• Knowledge about web page, its uses, effects on webpage etc.</li> </ul>   |
| Code- BCA- 207<br>Subject- Data Structure- II<br>(Using 'C' Language & Advanced level) | <ul style="list-style-type: none"> <li>• Concept of tree in Binary, AVL, M-Way, B-Tree &amp; B+ Tree, Huffman's Algo &amp; General Trees</li> <li>• Warshall's &amp; Dijkstra algorithm for shortest path, also includes operation &amp; Traversal of graph &amp; Topological sorting.</li> <li>• Sorting (all techniques)- internal and external.</li> <li>• Searching and merging (also includes searching and sorting complexity algorithm).</li> <li>• General concept of files, classification, comparison and file organization.</li> </ul> |
| Code: BCA-208<br>Subject: Object Oriented Programming Using C++                        | <ul style="list-style-type: none"> <li>• An understanding of principles behind the object oriented development process.</li> <li>• Competence in the use of object oriented programming language in the development of small to medium application programs.</li> </ul>   |
| Code: BCA-209<br>Subject: Software Engineering   | <ul style="list-style-type: none"> <li>• Define various software application domains, process models used in software development.</li> <li>• Justify the role of SDLC in software project development and evaluate the importance of software.</li> <li>• Explain needs for software specification, different type of software requirement and gathering techniques.</li> </ul>  |
| Semester- 5  |   |

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| Code: BCA-301<br>Subject- Management Information System            | <ul style="list-style-type: none"> <li>• To describe the role of information technology and decision support systems in business and record the current issues with those of the form to solve business problems.</li> <li>• Outline the role of ethical, social, and security issues of Information system.</li> </ul>   |
| Code: BCA-302<br>Subject- Computer Graphics                        | <ul style="list-style-type: none"> <li>• Understand the basics of computer graphics, different graphic applications.</li> <li>• Discuss various algorithms for scan conversion and filling of basic objects.</li> <li>• Use of geometric transformation on graphics objects and their application in composite form.</li> </ul>   |
| Code: BCA- 201<br>Subject- Data Communication and Networking       | <ul style="list-style-type: none"> <li>• Independently understand basic computer technology.</li> <li>• Understand explain data communication system and its components.</li> <li>• Explain how computers communicate with each other and devices.</li> <li>• Familiarize the students with basic taxonomy and terminology of computer networking and communication areas.</li> </ul> |
| Code: BCA-304<br>Subject- Visual Basic                             | <ul style="list-style-type: none"> <li>• Improve the background for choosing appropriate programming language for certain classes of programming problems.</li> <li>• Make good use of debuggers and related tools.</li> <li>• Increase the capacity to express programming concepts and choose an alternative ways to express things.</li> </ul>                                     |
| Semester- 6  |   |
| BCA-306<br>Subject- E-Commerce                                     | <ul style="list-style-type: none"> <li>• After completion of the subject students should be able to understand the basic concepts and technologies of MIS.</li> <li>• Have the knowledge of different types of E-Commerce.</li> <li>• Be aware of the ethical, social and security issues of information system.</li> </ul>   |
| BCA-307<br>Subject- Object Technologies and Programming using Java | <ul style="list-style-type: none"> <li>• Use and development environment to write, compile and run and test object oriented java programs.</li> <li>• Read and make elementary modification two Java programs that solve real-world problems.</li> <li>• Java is also used for developing the web based applications.</li> </ul>  |
| BCA- 308<br>Subject: Artificial Intelligence                       | <ul style="list-style-type: none"> <li>• Demonstrate fundamental understanding of history of AI and its foundation</li> <li>• Apply basic principle of air in solution that require problem solving inference, perception, knowledge representation and learning.</li> <li>• Demonstrate proficiency in applying</li> </ul>   |

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|   | scientific method to model of M/L.  |
| BCA-309<br>Subject- Introduction to Net | <ul style="list-style-type: none"> <li>• Provide a consistent, object- oriented programming environment whether object code is stored and executed locally, executed locally but web distributed or executed remotely.</li> <li>• Net minimizes software deployment and versioning conflicts</li> </ul> |

## **Name Of Program: B.Sc. Computer Science**

### **Program Outcomes**

- This program makes learners aware of the history of the discipline of Computer Science and understand the conceptual underpinnings of the subject.
- Students understand the nature of the software development process, including the need to provide appropriate documentation.
- The program also empowers the graduates to appear for various competitive examinations or choose the post graduate Program of MSc Computer Science.
- Students understand the nature of the software development process, including the need to provide appropriate documentation.
- Students understand standard techniques for solving a problem on a computer, including programming techniques and techniques for the representation of information.

### **Course Outcomes**

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| Semester- 1   |   |
| Paper Code: 1.1<br>Subject: Computer Fundamentals and MS-Office | <ul style="list-style-type: none"> <li>• To bridge the fundamental concepts of computers with the present level of knowledge of the students understand binary hexadecimal and octal number systems and their arithmetic.</li> <li>• The subject familiarize operating systems, programming languages, peripheral devices, networking, multimedia and internet.</li> <li>• To understand install configure and remove software and hardware.</li> </ul> |
| Paper Code: 1.2<br>Subject: Computer Architecture               | <ul style="list-style-type: none"> <li>• Understanding basic building blocks and Circuit Design</li> <li>• Designing of Arithmetic Circuits and Combinational Circuits</li> <li>• Understanding Sequential Circuits</li> <li>• Understanding Register Transfer and Micro-operations. Basic computer organization and Design</li> </ul>  |
| Semester-2  |   |
| Paper Code: 2.1   | <ul style="list-style-type: none"> <li>• Understand the basic terminology used in</li> </ul>  |

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| Subject: Programming in 'C'                                       | <p>computer programming.</p> <ul style="list-style-type: none"> <li>• It stresses the strengths of C which provide students with the meaning of writing efficient, maintains and portable code.</li> <li>• Write, compile and debug programs in C language and increase the ability to learn new programming languages.</li> </ul>   |
| Paper Code: 2.2<br>Subject: Structured System Analysis And Design | <ul style="list-style-type: none"> <li>• Introduction, definition, characteristics, elements, types, planning, and investigation of System. Understanding SDLC, fact finding and information gathering</li> <li>• Understanding Structured Analysis and learning tools of Structured Analysis</li> <li>• Interpreting results of analysis by Cost &amp; Benefit's Study</li> <li>• Understanding System Design Objective, Methodologies and Structured Design</li> <li>• Understanding Form, Input, Output designs and objectives, Layout and Form control</li> </ul> <p>System documentation, Implementation, Evaluation, Testing and Maintenance</p> |
| Semester- 3   |  |
| Paper Code: 3.1<br>Subject: Data Communication and Networking     | <ul style="list-style-type: none"> <li>• Building and understanding the fundamental concept of computer networking.</li> <li>• Allow student to gain expertise in some specific area of networking such as design and maintenance of individual networking.</li> </ul>   |
| Paper Code: 3.2<br>Subject: Object Oriented design and C++        | <ul style="list-style-type: none"> <li>• To understand how C++ improves C with object oriented features.</li> <li>• To learn how to write functions inheritance and constructor.</li> <li>• To learn how to design C++ classes for code reuse.</li> </ul>  |
| Semester- 4   |  |
| Paper Code: 4.1<br>Subject: Data Structures with C/ C++           | <ul style="list-style-type: none"> <li>• Able to understand the concept of data structure, and data type and array data structure.</li> <li>• Able to analyse algorithms and determine their time complexity.</li> <li>• Able to understand and apply various data structure such as stack, queue, tree graphs, to solve various competition problems using C programming language.</li> </ul>   |
| Paper Code: 4.2<br>Subject: Operating System                      | <ul style="list-style-type: none"> <li>• Describe and explain the fundamental component of a computer operating system.</li> <li>• Understand the issue in synchronization and memory management.</li> <li>• Understand the importance of process scheduling</li> </ul>  |

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| Semester- 5   |   |
| Paper Code: 5.1<br>Subject: Database Management System                  | <ul style="list-style-type: none"> <li>Database management system has made a revolution in all the industries that handles lot of data.</li> <li>There is no need to be a master of programming language if you want to work on DBMS. Any accountant who is having less technical knowledge can work on DBMS.</li> </ul>  |
| Paper Code: 5.2<br>Subject: introduction to internet and web technology | <ul style="list-style-type: none"> <li>Describe the basic concepts for network implementation</li> <li>Learn the basic working scheme of the Internet and World Wide Web.</li> <li>Understand fundamental tools and technologies for web design.</li> <li>Understand HTML</li> <li>Specify design rules in constructing web pages and sites.</li> <li>Create a table, link, list (ordered and unordered),</li> <li>Create a web page having form tools.</li> </ul>  |
| Semester- 6   |   |
| Paper Code: Paper 6.1<br>Subject: programming in Visual Basic           | <ul style="list-style-type: none"> <li>Understand the programming language and identify the fundamental concepts of object-oriented programming as well as event driven programming.</li> <li>understand and use the concepts of controls, objects, primitive value, message, method, selection control structure, repetition control structures</li> <li>know how to write and run a complete program</li> <li>understand menus and database programming</li> <li>Understand Arrays, control Arrays, procedures and functions</li> </ul> |
| Paper Code: Paper 6.2<br>Subject: Software Engineering                  | <ul style="list-style-type: none"> <li>Identify, formula and solve complex engineering problems by applying principles of engineering, science and mathematics.</li> <li>Develop and conduct appropriate experimentation analyse and interpret data and use inner engineering judgment to draw conclusion.</li> <li>Communicate effectively with a range of audience.</li> </ul>  |

**Name Of Program: B.Com. (Hons.)**

## **Program Specific Outcome**

- Curriculum offers practical understanding which would provide the student to face the contemporary challenges in the business activities.
- Develop the ability to interact well with team members.
- Familiarizes the students with the basic concepts of management in order to aid in understanding of how an organization functions, and in understanding the complexity and wide variety of issues managers face in today's business firms.
- Students feel motivated to be an entrepreneur as they learn the various strategies and methods of mobilizing resources.

## **Course Outcomes**

### **I Sem.**

| <b>Course</b>   | <b>Outcomes</b>   |
|---|---|
| <b>BCH - 1.01</b><br><b>An Introduction to Statistics</b> | <ul style="list-style-type: none"><li>• To learn about the basic concepts of Statistics.</li><li>• To learn about the primary and secondary data, collection of data and presentation of data.</li><li>• To provide an overview of mean, median, mode, harmonic mean and geometric mean.</li><li>• To provide an overview of dispersion, skewness, kurtosis and index numbers.</li><li>• To gain knowledge about probability, theorems of probability and bayes' theorem.</li></ul> |
| <b>BCH - 1.02</b><br><b>Business Communication</b>        | <ul style="list-style-type: none"><li>• To develop communication skills of students.</li><li>• To develop skills of writing business letters/ reports/ notes/ e-mails.</li><li>• To understand about communications and barriers in communication.</li><li>• To know various parts of speech.</li><li>• To know the importance of presentation.</li></ul>   |
| <b>BCH - 1.03</b><br><b>Business Organization</b>         | <ul style="list-style-type: none"><li>• To build strong foundation in special areas such as management and international business.</li><li>• To provide practical skills for those who wish to move directly into the workplace.</li><li>• To develop skills in marketing and financial management.</li><li>• To provide the knowledge of different types of money market and functions of financial institutions.</li></ul>  |
| <b>BCH - 1.04</b><br><b>An Introduction to Accounting</b> | <ul style="list-style-type: none"><li>• To understand basic concepts and principles of accountancy. To know about the basics of accounting standards.</li><li>• To know the various types of errors and how to rectify them.</li><li>• To prepare final accounts of sole trader.</li><li>• To prepare accounts of non-profit organizations.</li><li>• To know how to prepare various subsidiary books.</li></ul>  |
| <b>BCH – 1.05</b><br><b>Fundamentals of Economics</b>     | <ul style="list-style-type: none"><li>• To understand the concepts related to theory of demand &amp; supply and elasticity of demand &amp; elasticity of supply.</li><li>• To understand the concept of indifference curve analysis and price effect, income effect and substitution effect.</li><li>• To equip students with the basic concepts of production function, law of variable proportions and iso-quant curves.</li></ul>  |

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| <b>BCH – 1.06<br/>Business Law – I</b> | <ul style="list-style-type: none"> <li>• To understand the basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions.</li> <li>• To identify the void agreements and learn the different modes of discharging the contract and its remedies.</li> <li>• To be able to recognize and differentiate the special contracts and learn the Consumer Protection Act.</li> <li>• To understand the rights and obligations under Sale of Goods Act.</li> </ul> |
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## II Sem.

| <b>Course</b>   | <b>Outcomes</b>   |
|---|---|
| <b>BCH - 2.01<br/>Financial Accounting for Business</b> | <ul style="list-style-type: none"> <li>• To explain hire purchase system.</li> <li>• To explain the concepts of branch accounting and prepare accounts of branches.</li> <li>• To prepare partnership accounts including dissolution of partnership firm.</li> <li>• To prepare royalty accounts.</li> <li>• To introduce them to basics of tally.</li> </ul>   |
| <b>BCH - 2.02<br/>Business Economics</b>                | <ul style="list-style-type: none"> <li>• To understand the concept of cost of production.</li> <li>• To provide knowledge about different markets like perfect competition market, monopoly market, monopolistic market.</li> <li>• To give information related to different factors in economic development.</li> </ul>  |
| <b>BCH - 2.03<br/>Business Statistics</b>               | <ul style="list-style-type: none"> <li>• To understand about correlation – its types and methods.</li> <li>• To learn about regression, linear regression and its types and methods.</li> <li>• To understand about the concept of time series – its components and analysis.</li> <li>• To gain knowledge about binomial, poisson and normal distribution.</li> </ul>  |
| <b>BCH - 2.04<br/>Business Management</b>               | <ul style="list-style-type: none"> <li>• To know about management skills that students need to apply in various fields with their functions.</li> <li>• To learn about motivation and leadership theories that will help them to adopt in their business.</li> <li>• To provide the knowledge of importance of planning and decision making.</li> <li>• To help the students to apply management principles in their general life to work smoothly without any hassle.</li> </ul> |
| <b>BCH - 2.05<br/>Business Law – II</b>                 | <ul style="list-style-type: none"> <li>• To understand the partnership act rules and regulations.</li> <li>• To understand the Foreign Exchange Management Act (FEMA).</li> <li>• To understand the Industrial Disputes Act 1947.</li> <li>• To understand the Factories Act 1948.</li> </ul>   |
| <b>BCH - 2.06<br/>Introduction to Computers</b>         | <ul style="list-style-type: none"> <li>• To provide basic knowledge about computers.</li> <li>• To enable the students to use basic applications in computers.</li> </ul>   |

## III Sem.

| Course   | Outcomes   |
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| <b>BCH - 3.01<br/>Business<br/>Mathematics</b>                 | <ul style="list-style-type: none"> <li>To solve the system of linear equations using matrices and determinants.</li> <li>To evaluate time value of money.</li> <li>To differentiate and integrate algebraic values.</li> <li>To learn about sets and solve linear programming by graphic and simplex method.</li> </ul>  |
| <b>BCH - 3.02<br/>Corporate<br/>Accounting – I</b>             | <ul style="list-style-type: none"> <li>To understand the concept of issue of share and recording journal entries for accounting for share capital and debenture.</li> <li>To describe the pattern of final accounts of the company.</li> <li>To learn the methods of valuation of goodwill and share.</li> <li>To provide knowledge about holding company accounts.</li> <li>To give knowledge about prior incorporation and after incorporation profit/loss.</li> </ul> |
| <b>BCH - 3.03<br/>Cost Accounting</b>                          | <ul style="list-style-type: none"> <li>To familiarize the concept of cost accounting, to facilitate the idea and meaning of material control with pricing methods.</li> <li>To develop the knowledge about remuneration and incentives.</li> <li>To introduce the concept of overhead cost.</li> <li>To understand unit costing, reconciliation, job and process costing.</li> </ul>   |
| <b>BCH - 3.04<br/>Company Law – I</b>                          | <ul style="list-style-type: none"> <li>To understand the meaning, features of company and types of companies.</li> <li>To make students aware about the memorandum and articles of association of the company.</li> <li>To make students familiarize with the term prospectus issued by company.</li> <li>To understand about the borrowing powers of the company.</li> <li>To differentiate between mortgage and charge.</li> </ul>                                     |
| <b>BCH - 3.05<br/>Principles of<br/>Marketing</b>              | <ul style="list-style-type: none"> <li>To help students in developing basic marketing skills.</li> <li>To equip students with the market segmentation strategies.</li> <li>To understand the pricing and promotional aspects of marketing.</li> <li>To understand the product concept of marketing.</li> </ul>   |
| <b>BCH - 3.06<br/>Basics of<br/>Information<br/>Technology</b> | <ul style="list-style-type: none"> <li>To understand the concept of MS-Windows and MS- Office(word, excel and powerpoint, access)</li> <li>To know the usefulness of computer in modern or digital era.</li> </ul>   |

#### IV Sem.

| Course  | Outcomes  |
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| <b>BCH - 4.01<br/>Corporate<br/>Accounting - II</b> | <ul style="list-style-type: none"> <li>To understand the concept of amalgamation – in the nature of merger and purchase.</li> <li>To understand internal reconstruction of companies.</li> <li>To provide information about banking companies and underwriting of shares and debentures.</li> <li>To learn about liquidation of companies.</li> <li>To learn about double accounting system and accounting of electricity companies.</li> </ul> |



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| <b>BCH - 4.02<br/>Business Ethics</b>                              | <ul style="list-style-type: none"> <li>• To understand the concepts of politics and ethics.</li> <li>• To know the corporate social responsibilities.</li> <li>• To understand the importance of whistle blowing.</li> <li>• To know the various ethical codes in corporate governance.</li> </ul>   |
| <b>BCH - 4.03<br/>Company Law – II</b>                             | <ul style="list-style-type: none"> <li>• To understand the meaning of shares, their types and issue of shares.</li> <li>• To introduce the process of transfer and transmission of shares and debentures.</li> <li>• To understand about the types of meetings conducted in the company.</li> <li>• To familiarize students about duties, powers and liabilities of director.</li> <li>• To know the process of company's winding up and duties of company liquidator.</li> </ul>  |
| <b>BCH - 4.04<br/>Statistical Analysis<br/>using MS-Excel</b>      | <ul style="list-style-type: none"> <li>• To inculcate data analysis skills.</li> <li>• To learn how to use MS-Excel for data analysis.</li> <li>• To understand Hypothesis testing.</li> <li>• To familiarize students with SPSS.</li> </ul>   |
| <b>BCH - 4.05<br/>Financial<br/>Institutions &amp;<br/>Markets</b> | <ul style="list-style-type: none"> <li>• To understand the fundamentals of Indian financial system, their institutions and markets.</li> <li>• To make students aware about the functions of EXIM bank and NABARD.</li> <li>• To understand the basic concept of credit creation.</li> <li>• To make students able to know about functions of RBI.</li> <li>• To provide in-depth understanding of Indian financial markets and their instruments.</li> <li>• To make students able to memorise about merchant banking, venture capital, lease financing.</li> </ul> |
| <b>BCH - 4.06<br/>Auditing</b>                                     | <ul style="list-style-type: none"> <li>• To introduce the basic concepts of Auditing, the need and importance of Auditing.</li> <li>• To understand the Audit Procedures.</li> <li>• To understand the qualification, appointment, powers, duties and liabilities of company auditors.</li> <li>• To equip the students with the process of preparing the audit reports.</li> </ul>  |

#### V Sem.

| <b>Course</b>                                  | <b>Outcomes</b>  |
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| <b>BCH - 5.01<br/>Financial<br/>Management</b> | <ul style="list-style-type: none"> <li>• To understand various concepts related to financial management.</li> <li>• To develop the ability to use various tools and techniques in the area of finance.</li> <li>• To develop analytical skills which facilitate decision-making in business situations.</li> <li>• To develop knowledge on the allocation, management and funding of financial resources.</li> </ul> |
| <b>BCH - 5.02<br/>Investment<br/>Analysis</b>  | <ul style="list-style-type: none"> <li>• To understand the meaning, nature and process of investment. Meaning of Risk &amp; Return.</li> <li>• To understand the concept of Technical Analysis, Efficient Market Hypothesis.</li> <li>• To understand the concept of Fundamental Analysis. Comparative</li> </ul>  |

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|   | <p>study of Fundamental and Technical Analysis.</p> <ul style="list-style-type: none"> <li>To understand the concept of Secondary Market, Derivatives.</li> </ul>  |
| <b>BCH - 5.03</b><br><b>Money and Banking</b>                   | <ul style="list-style-type: none"> <li>To learn about the concept of Money including its meaning, types, approaches, functions &amp; evils.</li> <li>To understand the circular flow of money.</li> <li>To develop knowledge about Commercial Banks &amp; Central Bank.</li> <li>To learn about the concept of Inflation &amp; Quantity Theory of Money.</li> </ul>  |
| <b>BCH - 5.04</b><br><b>Contemporary Issues in Commerce</b>     | <ul style="list-style-type: none"> <li>To familiarize students with the general contemporary issues like balance of payment, deficit financing, tax regulations, e-learning, mobile communication.</li> <li>To understand the basic financial issues in commerce such as financial innovations, global financial crisis.</li> <li>To make students aware about various marketing issues like rural marketing, e-marketing, retailing.</li> <li>To understand the value of human resource in business.</li> </ul> |
| <b>BCH - 5.05</b><br><b>Income Tax</b>                          | <ul style="list-style-type: none"> <li>To understand taxation rules and principles.</li> <li>To employ taxation principles to resolve practical problems.</li> <li>To know taxation treatment for various heads like salary, capital gains, etc.</li> <li>To know about Indian Taxation Structure.</li> </ul>  |
| <b>BCH - 5.06</b><br><b>Entrepreneurship and Small Business</b> | <ul style="list-style-type: none"> <li>To know the meaning of Entrepreneur and Entrepreneurship.</li> <li>To understand the role of creativity and innovation. To understand the feasibility study of various entrepreneurship plans.</li> <li>To understand the managerial roles and functions in a small business.</li> <li>To understand issues in small business marketing, financial and non-financial institutional support of small business development.</li> </ul>                                      |

## VI Sem.

| Course  | Outcomes   |
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| <b>BCH - 6.01</b><br><b>Accounting for Managers</b>     | <ul style="list-style-type: none"> <li>To know about the usage of business finance terms and concepts when communicating.</li> <li>To understand the financial concepts used in making accounting management decisions.</li> <li>To develop effective communication skills to promote respect and relationships for financial deals.</li> <li>To demonstrate a basic understanding of accounting management.</li> </ul>  |
| <b>BCH - 6.02</b><br><b>Project Planning &amp; Mgt.</b> | <ul style="list-style-type: none"> <li>To provide students with a holistic and integrative view of project management.</li> <li>To highlight the role of projects in modern day business.</li> <li>To sensitize the complexities of project management.</li> <li>To understand how to manage project risk, including identifying, analyzing and responding to risk.</li> <li>To know about application of project management processes to initiate, plan, execute, monitor and control, and close projects and to coordinate all the elements of the project.</li> </ul> |
| <b>BCH - 6.03</b>                                       | <ul style="list-style-type: none"> <li>To know how to file ITR.</li> </ul>   |

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| <b>Income Tax Law &amp; Administration</b>                              | <ul style="list-style-type: none"> <li>• To compute tax on Total Income.</li> <li>• To have knowledge of tax avoidance and tax evasion concepts.</li> <li>• To have knowledge about assessment of HUF.</li> </ul>  |
| <b>BCH - 6.04<br/>Human Resource Management</b>                         | <ul style="list-style-type: none"> <li>• To understand the importance and the functions of human resource management and learn the qualities of human resource manager in an organization and also understand the concept of human resource planning and its recent trend.</li> <li>• To understand how an employee gets recruited and selected in any organization and also learn the different training and management development programs.</li> <li>• To understand the different types of remuneration plans and its significance.</li> <li>• To identify the causes of industrial unrest and understand the concept of human resource development and also learn the importance of good industrial relations.</li> </ul> |
| <b>BCH - 6.05<br/>Business Environment &amp; International Business</b> | <ul style="list-style-type: none"> <li>• To learn about different components and their importance of business environment.</li> <li>• To learn about economic reforms- Liberalization, Privatization and Globalization.</li> <li>• To understand about the concepts of foreign capital and foreign investment in India.</li> <li>• To get the knowledge of economic institutions i.e., World Bank &amp; WTO.</li> </ul>  |
| <b>BCH - 6.06<br/>Retail Management &amp; Sales Procedures</b>          | <ul style="list-style-type: none"> <li>• To provide insights into all functional areas of retailing.</li> <li>• To analyze perspective of the Indian retailing scenario.</li> <li>• To provide knowledge about retailing practices followed in India.</li> <li>• To develop ability to understand behavior of retail shopper.</li> </ul>   |

## **Name Of Program: Bachelor Of Commerce (General)**

### **Program Outcomes**

- Gain a thorough grounding in the fundamentals of Commerce and its allied areas.
- Gain proficiency for competitive exams like CA, CS, ICWA, etc.
- Develop subject skills within various disciplines of finance, auditing, taxation, accounting, management, communication, law and computer.
- Acquire practical skills to work as tax consultants, audit assistants and other financial supporting services.
- Can pursue post-graduation courses in the field of commerce and its allied areas.

### **Program Specific Outcomes**

Provides basic knowledge of fundamentals of commerce which includes finance, human resource management, marketing, production, law, economics, mathematics, etc.

- Enhances their proficiency in basics of computer.
- Provides knowledge about legal aspects of business.
- Equips the students with the taxation system and reforms in India.

- Develops the skills of students in various branches of accounting like financial accounting, corporate accounting, cost accounting and management accounting.

### Course Outcomes

#### I Sem.

| Course  | Outcomes   |
|---|--|
| <b>1.01<br/>Financial<br/>Accounting-I</b>            | <ul style="list-style-type: none"> <li>• To understand basic concepts and principles of accountancy.</li> <li>• To know the various types of errors and how to rectify them.</li> <li>• To prepare final accounts of sole trader.</li> <li>• To prepare accounts of non-profit organizations.</li> <li>• To learn about consignment accounts.</li> </ul>   |
| <b>1.02<br/>Business<br/>Mathematics – I</b>          | <ul style="list-style-type: none"> <li>• To learn the concept of sets and its applications.</li> <li>• To understand the laws of indices and logarithms (properties).</li> <li>• To understand permutations and combinations.</li> <li>• To learn to forms sequences and find A.P. and G.P.</li> <li>• To interpret data using graphs and charts.</li> </ul>   |
| <b>1.03<br/>Business<br/>Economics – I</b>            | <ul style="list-style-type: none"> <li>• To understand the basic problems of an economy at micro level &amp; know about the concept of demand and supply.</li> <li>• To understand the concept of market &amp; know about different types of market.</li> <li>• To understand the concept of production, cost &amp; Iso-quant curve.</li> <li>• To know about the consumer behaviour with the help of utility analysis &amp; indifference curve analysis.</li> </ul> |
| <b>1.04<br/>Business<br/>Management – I</b>           | <ul style="list-style-type: none"> <li>• To understand the type of Economic Activities.</li> <li>• To understand the concept, principles, scope, importance and nature of Business Management.</li> <li>• To understand various management approaches.</li> <li>• To inculcate the managerial skills to attain the organizational objectives efficiently and effectively.</li> </ul>   |
| <b>1.05<br/>Business<br/>Communication<br/>Skills</b> | <ul style="list-style-type: none"> <li>• To develop communication skills of students.</li> <li>• To develop skills of writing business letters/ E-Mails/ Notices.</li> <li>• To understand the barriers in communication.</li> <li>• To know about verbal and non-verbal communication.</li> <li>• To know various parts of speech.</li> </ul>   |
| <b>1.06<br/>Basics of<br/>Computers – I</b>           | <ul style="list-style-type: none"> <li>• Identify different types of computer with their generations.</li> <li>• To understand the concept of input, output and memory.</li> <li>• Provide knowledge of how to use Ms-word.</li> </ul>   |

#### II Sem.

| Course                                    | Outcomes  |
|---|---|
| <b>2.01 Financial<br/>Accounting – II</b> | <ul style="list-style-type: none"> <li>• To understand hire purchase system.</li> <li>• To understand the concepts of branch accounting and to prepare accounts of branches.</li> <li>• To prepare partnership accounts including dissolution of partnership firm.</li> </ul> |

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|   | <ul style="list-style-type: none"> <li>• To prepare royalty accounts.</li> <li>• To prepare joint venture accounts.</li> </ul>   |
| <b>2.02<br/>Business<br/>Mathematics – II</b> | <ul style="list-style-type: none"> <li>• To learn Matrices and its types and to find determinant of matrix.</li> <li>• To solve system of linear equations using matrix and determinant.</li> <li>• To find derivatives logarithmic and exponential functions and its applications.</li> <li>• To calculate compound interest and annuities.</li> <li>• To understand the concept of ratio and proportion, solve problems related to percentage, profit and loss.</li> </ul> |
| <b>2.03<br/>Business<br/>Economics – II</b>   | <ul style="list-style-type: none"> <li>• To understand how price will determine in different market like perfect competition, monopoly, imperfect competition.</li> <li>• To understand what is the conditions of equilibrium in different market?</li> <li>• To understand how factor price will determine of different factors?</li> <li>• To understand the process of an economy at micro level.</li> </ul>  |
| <b>2.04<br/>Business<br/>Management – II</b>  | <ul style="list-style-type: none"> <li>• To develop communication skills in a potential manager.</li> <li>• To familiarize students with the recruitment and selection process.</li> <li>• To understand various theories of motivation and leadership.</li> <li>• To understand importance and methods of training.</li> <li>• To understand controlling techniques.</li> </ul>   |
| <b>2.05<br/>Business<br/>Environment</b>      | <ul style="list-style-type: none"> <li>• To understand the different types of environment like social, political, etc. and its impact on business.</li> <li>• To understand the knowledge of Indian economy and its problems and policies of government.</li> </ul>  |
| <b>2.06<br/>Basics of<br/>Computers – II</b>  | <ul style="list-style-type: none"> <li>• To understand the various components of computer</li> <li>• To understand the different types of icons and operating systems.</li> <li>• To learn the use of Ms-excel.</li> </ul>   |

### III Sem.

| Course                                       | Outcomes  |
|--|---|
| <b>3.01<br/>Corporate<br/>Accounting – I</b> | <ul style="list-style-type: none"> <li>• To understand the concept of issue of shares, debentures and redemption of shares and debentures.</li> <li>• To know the pattern of final accounts of the company.</li> <li>• To learn the methods of valuation of goodwill and share.</li> <li>• To provide them knowledge about prior incorporation and after incorporation profit/loss.</li> </ul>  |
| <b>3.02<br/>Business<br/>Statistics – I</b>  | <ul style="list-style-type: none"> <li>• To introduce the basic concepts of statistics.</li> <li>• To provide the insights for primary and secondary data and methods of collection of data.</li> <li>• To provide an overview of mean, median, mode, harmonic mean and geometric mean.</li> <li>• To learn about moments, skewness and kurtosis.</li> <li>• To learn about the concept of analysis of bivariate data with the help of studying the concept of correlation and regression.</li> </ul> |
| <b>3.03<br/>Business<br/>Regulatory</b>      | <ul style="list-style-type: none"> <li>• To learn the difference between a valid void and voidable contract.</li> <li>• To know the difference between the contract of guarantee and indemnity.</li> <li>• To understand the rights and duties of pawnor and pawnee under contract</li> </ul>   |

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| <b>Framework – I</b>                  | <p>of bailment.</p> <ul style="list-style-type: none"> <li>• To learn how to pursue consumer rights under Consumer Protection Act, 1982.</li> <li>• To know the basic provisions regarding the legal framework governing the business world.</li> <li>• To know the basic concepts, terms &amp; provisions of Mercantile and Business Laws.</li> </ul>   |
| <b>3.04 Corporate Law – I</b>         | <ul style="list-style-type: none"> <li>• To describe the basic rules and concepts of corporate law.</li> <li>• To understand types of companies.</li> <li>• To understand rights, duties and liabilities of promoters.</li> <li>• To understand the remedies available to shareholders in case of mis-statement in prospectus.</li> </ul>  |
| <b>3.05 Human Resource Management</b> | <ul style="list-style-type: none"> <li>• To understand the importance and the functions of human resource management and learn the qualities of human resource manager in an organization.</li> <li>• To understand the employee recruitment and selection process and different training programs.</li> <li>• To understand the different types of remuneration plans and its significance.</li> <li>• To understand the causes of industrial unrest and significance of industrial relations in managerial world.</li> </ul> |
| <b>3.06 Production Management</b>     | <ul style="list-style-type: none"> <li>• To familiarize with production management, its objectives, features and importance.</li> <li>• To know about production processes.</li> <li>• To know the importance of plant location and plant layout decision.</li> <li>• To familiarize with the basic elements of production planning and controlling.</li> <li>• To learn about techniques of quality management.</li> <li>• To familiarize with the concept of maintenance management.</li> </ul>                              |

#### IV Sem.

| <b>Course</b>                                  | <b>Outcomes</b>   |
|--|---|
| <b>4.01 Corporate Accounting – II</b>          | <ul style="list-style-type: none"> <li>• To learn about holding company accounts.</li> <li>• To understand the concept of amalgamation and internal reconstruction of companies.</li> <li>• To provide information about accounting of banking companies.</li> <li>• To learn about liquidation of companies.</li> </ul>  |
| <b>4.02 Business Statistics – II</b>           | <ul style="list-style-type: none"> <li>• To understand the concept of index number and it's various components.</li> <li>• To learn about Time series, its different models and various methods.</li> <li>• To learn about the concept of probability and its various approaches.</li> <li>• To understand Bayes' theorem.</li> <li>• To understand the Binomial, Poisson and Normal distribution.</li> </ul> |
| <b>4.03 Business Regulatory Framework – II</b> | <ul style="list-style-type: none"> <li>• To learn the conditions of the Partnership Act.</li> <li>• To understand the conditions and warranties of Sale of Goods Act.</li> <li>• To make students aware about right to information.</li> <li>• To learn about the usage of negotiable instruments in practical life.</li> </ul>   |
| <b>4.04 Corporate Law – II</b>                 | <ul style="list-style-type: none"> <li>• To understand duties and rights of liquidators.</li> <li>• To understand types of shares.</li> <li>• To understand powers, duties and liabilities of directors.</li> </ul>   |

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|                                     | <ul style="list-style-type: none"> <li>• To know about provisions regarding shareholders meetings.</li> </ul>  |
| <b>4.05 Marketing Management</b>    | <ul style="list-style-type: none"> <li>• To help students in developing basic marketing skills.</li> <li>• To equip the students with the concept of market segmentation.</li> <li>• To help students in understanding the product and concept of marketing.</li> </ul>  |
| <b>4.06 Banking and Banking Law</b> | <ul style="list-style-type: none"> <li>• To get the fundamental knowledge of bank workings, their importance and structure of commercial banking system in India.</li> <li>• To know about RBI, its functions, regulation and control of credit, monetary policy.</li> <li>• To give knowledge about how interest rates are determined and regulated in India.</li> <li>• To understand what are the duties and obligations of a banker.</li> <li>• To provide in-depth knowledge of negotiable instruments and rights and liabilities of both the parties.</li> </ul> |

### V Sem.

| Course  | Outcomes   |
|---|--|
| <b>5.01 Taxation Law – I</b>                          | <ul style="list-style-type: none"> <li>• To familiarize students with Income Tax Act 1961.</li> <li>• To understand about all five heads of Income in detail.</li> <li>• To know the incomes which are exempted from tax.</li> <li>• To understand deductions U/S 80C to 80U for Tax Planning.</li> </ul>  |
| <b>5.02 Cost Accounting – I</b>                       | <ul style="list-style-type: none"> <li>• To learn the concept related to cost, its classification, methods and techniques.</li> <li>• To familiarize students with the labour cost, methods of wage payment and incentive schemes.</li> <li>• To gain the knowledge about overheads.</li> <li>• To learn how to control cost and how to do cost reduction.</li> </ul>  |
| <b>5.03 Accounting for Management</b>                 | <ul style="list-style-type: none"> <li>• To equip the students with the ability to interpret &amp; use Accounting Information in Managerial Decision Making.</li> <li>• To understand application of Accounting Techniques for Management.</li> <li>• To understand calculation &amp; use of Ratios in companies.</li> <li>• To make students able to understand &amp; prepare Cash Flow Statement.</li> <li>• To familiarize students with the concept of Capital Budgeting &amp; Capital Rationing.</li> </ul> |
| <b>5.04 Financial Market Operations</b>               | <ul style="list-style-type: none"> <li>• To make students understand about the basic financial structure of India.</li> <li>• To introduce students with the working of primary and secondary markets.</li> <li>• To familiarize with the concept of merchant banking, investor's protection, credit rating and role of SEBI.</li> <li>• To understand the concept of mutual fund and development banks in India.</li> <li>• To understand the concept of stock exchange functionaries.</li> </ul>               |
| <b>5.05 Entrepreneurship and Small-Scale Business</b> | <ul style="list-style-type: none"> <li>• To know the meaning of Entrepreneur and Entrepreneurship.</li> <li>• To understand the role of creativity and innovation. To understand the feasibility study of various entrepreneurship plans.</li> <li>• To understand the managerial roles and functions in a small business.</li> <li>• To understand issues in small business marketing, financial and non-</li> </ul>  |

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|   | financial institutional support of small business development.  |
| <b>5.06<br/>Investment<br/>Management</b> | <ul style="list-style-type: none"> <li>• To understand the meaning, nature and process of investment. Meaning of Risk &amp; Return.</li> <li>• To understand the concept of Technical Analysis, Efficient Market Hypothesis.</li> <li>• To understand the concept of Fundamental Analysis. Comparative study of Fundamental and Technical Analysis.</li> <li>• To understand the concept of Secondary Market, Derivatives.</li> </ul> |

### VI Sem.

| Course   | Outcomes   |
|--|--|
| <b>6.01<br/>Taxation Law – II</b>                                | <ul style="list-style-type: none"> <li>• To calculate total taxable income and tax liability of an Individual, HUF, Firm, AOP and BOI.</li> <li>• To know about Income Tax Authorities and their powers.</li> <li>• To introduce procedure for assessment.</li> <li>• To understand the recovery and refund of tax.</li> <li>• To understand the Concept of TDS, TCS, Advance Tax, Penalties, Offences and Prosecutions.</li> </ul>    |
| <b>6.02<br/>Cost Accounting - II</b>                             | <ul style="list-style-type: none"> <li>• To understand the concept of process costing and inter-process profit.</li> <li>• To understand contract costing, standard costing and marginal costing.</li> <li>• To identify the specifics of different costing methods.</li> <li>• To help the students to prepare budget.</li> </ul>   |
| <b>6.03<br/>Financial<br/>Management</b>                         | <ul style="list-style-type: none"> <li>• To study nature &amp; scope of Financial Management.</li> <li>• To understand financial decision &amp; dividend decision.</li> <li>• To study about Cost of Capital &amp; Capital structure theories.</li> <li>• To understand working capital management.</li> </ul>   |
| <b>6.04<br/>Auditing</b>   | <ul style="list-style-type: none"> <li>• To introduce basic concepts of Auditing, the need and importance of Auditing.</li> <li>• To understand the Audit Procedures.</li> <li>• To understand the qualification, appointment, powers, duties and liabilities of company auditors.</li> <li>• To equip the students with the process of preparing the audit reports.</li> </ul>  |
| <b>6.05<br/>Goods and<br/>Services Tax &amp;<br/>Customs Law</b> | <ul style="list-style-type: none"> <li>• To understand about the concept of GST.</li> <li>• To understand about registration, levy and collection of GST.</li> <li>• To understand time and place of supply of GST.</li> <li>• To understand the offences and penalties in GST.</li> </ul>   |
| <b>6.06<br/>International<br/>Marketing</b>                      | <ul style="list-style-type: none"> <li>• To make students aware about the international marketing environment.</li> <li>• To know about international product life cycle, product designing, packaging and product pricing decisions.</li> <li>• To develop management skills among students for managing channel conflict.</li> <li>• To understand about the promotion and advertising concept on an international level.</li> </ul> |

**Name Of Program: B.Com (Voc.)**



## **Program Specific Outcomes**

- Provides in depth understanding of computers, operating systems, DBMS, CAD, e-commerce, structural programming and computer graphics, etc.
- Provides hands-on experience with application of various software to enhance their profile.
- Understand both the theoretical and practical role of financial management, various branches of accounting, legal aspects, economics, financial markets and taxation system in business concerns.
- Can pursue post-graduation both in computer as well as commerce.

### **I Sem.**

| <b>Course</b>                                     | <b>Outcomes</b>   |
|---|---|
| <b>1.01<br/>Financial<br/>Accounting-I</b>        | <ul style="list-style-type: none"><li>• To understand basic concepts and principles of accountancy.</li><li>• To know the various types of errors and how to rectify them.</li><li>• To prepare final accounts of sole trader.</li><li>• To prepare accounts of non-profit organizations.</li><li>• To learn about consignment accounts.</li></ul>  |
| <b>1.02<br/>Business<br/>Mathematics – I</b>      | <ul style="list-style-type: none"><li>• To learn the concept of sets and its applications.</li><li>• To understand the laws of indices and logarithms (properties).</li><li>• To understand permutations and combinations.</li><li>• To learn to form sequences and find A.P. and G.P.</li><li>• To interpret data using graphs and charts.</li></ul>   |
| <b>1.03<br/>Business<br/>Economics – I</b>        | <ul style="list-style-type: none"><li>• To understand the basic problems of an economy at micro level &amp; know about the concept of demand and supply.</li><li>• To understand the concept of market &amp; know about different types of market.</li><li>• To understand the concept of production, cost &amp; Iso-quant curve.</li><li>• To know about the consumer behaviour with the help of utility analysis &amp; indifference curve analysis.</li></ul> |
| <b>1.04<br/>Business<br/>Management – I</b>       | <ul style="list-style-type: none"><li>• To understand the type of Economic Activities.</li><li>• To understand the concept, principles, scope, importance and nature of Business Management.</li><li>• To understand various management approaches.</li><li>• To inculcate the managerial skills to attain the organizational objectives efficiently and effectively.</li></ul>   |
| <b>1.05<br/>Computer<br/>Fundamentals –<br/>I</b> | <ul style="list-style-type: none"><li>• To get some basic knowledge about computer.</li><li>• To create and design a word document for general office use.</li><li>• To have a working knowledge of paragraph formatting, macro and mail-merge in MS-Word.</li><li>• To understand the concept of input and output devices of Computers and how it works.</li></ul>   |
| <b>1.06<br/>Operating<br/>Systems and</b>         | <ul style="list-style-type: none"><li>• To understand the basic concept of operating system.</li><li>• To know the uses of MS Excel in business.</li><li>• To understand the concept of Unix and Dos operating system.</li></ul>  |

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| <b>Business Data Processing – I</b> |  |
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## II Sem.

| <b>Course</b>   | <b>Outcomes</b>  |
|---|--|
| <b>2.01 Financial Accounting – II</b>                           | <ul style="list-style-type: none"> <li>• To understand the hire purchase system.</li> <li>• To explain the concepts of branch accounting and prepare accounts of branches.</li> <li>• To prepare partnership accounts including dissolution of partnership firm.</li> <li>• To prepare royalty accounts.</li> <li>• To prepare joint venture accounts.</li> </ul>  |
| <b>2.02 Business Mathematics – II</b>                           | <ul style="list-style-type: none"> <li>• To learn Matrices and its types and to find determinant of matrix.</li> <li>• To solve system of linear equations using matrix and determinant.</li> <li>• To find derivatives logarithmic and exponential functions and its applications.</li> <li>• To calculate compound interest and annuities.</li> <li>• To understand the concept of ratio and proportion, solve problems related to percentage, profit and loss.</li> </ul> |
| <b>2.03 Business Economics – II</b>                             | <ul style="list-style-type: none"> <li>• To understand how price will determine in different market like perfect competition, monopoly, imperfect competition.</li> <li>• To understand what is the conditions of equilibrium in different market?</li> <li>• To understand how factor price will determine of different factors?</li> <li>• To understand the process of an economy at micro level.</li> </ul>  |
| <b>2.04 Business Management – II</b>                            | <ul style="list-style-type: none"> <li>• To develop communication skills in a potential manager.</li> <li>• To familiarize students with the recruitment and selection process.</li> <li>• To understand various theories of motivation and leadership.</li> <li>• To understand importance and methods of training.</li> <li>• To understand controlling techniques.</li> </ul>   |
| <b>2.05 Computer Fundamentals – II</b>                          | <ul style="list-style-type: none"> <li>• To understand the concept of data communication, its modes, forms and data communication channels.</li> <li>• To understand the concept of input and output devices of computers and how it works.</li> <li>• To understand the concepts, structure, types and design of operating Systems</li> <li>• To understand evolution of internet and its application.</li> </ul>   |
| <b>2.06 Operating Systems and Business Data Processing – II</b> | <ul style="list-style-type: none"> <li>• To understand the concept of data and files in computer system.</li> <li>• To learn how to use MS Access in business.</li> <li>• To know the role of database in business.</li> </ul>   |

### III Sem.

| Course  | Outcomes   |
|---|--|
| <b>3.01<br/>Corporate<br/>Accounting – I</b>              | <ul style="list-style-type: none"> <li>To understand the concept of issue of shares, debentures and redemption of shares and debentures.</li> <li>To know the pattern of final accounts of the company.</li> <li>To learn the methods of valuation of goodwill and share.</li> <li>To provide them knowledge about prior incorporation and after incorporation profit/loss.</li> </ul>   |
| <b>3.02<br/>Business<br/>Statistics – I</b>               | <ul style="list-style-type: none"> <li>To introduce the basic concepts of statistics.</li> <li>To provide the insights for primary and secondary data and methods of collection of data.</li> <li>To provide an overview of mean, median, mode, harmonic mean and geometric mean.</li> <li>To learn about moments, skewness and kurtosis.</li> <li>To learn about the concept of analysis of bivariate data with the help of studying the concept of correlation and regression.</li> </ul>  |
| <b>3.03<br/>Business<br/>Regulatory<br/>Framework – I</b> | <ul style="list-style-type: none"> <li>To learn the difference between a valid void and voidable contract.</li> <li>To know the difference between the contract of guarantee and indemnity.</li> <li>To understand the rights and duties of pawnor and pawnee under contract of bailment.</li> <li>To learn how to pursue consumer rights under Consumer Protection Act, 1982.</li> <li>To know the basic provisions regarding the legal framework governing the business world.</li> <li>To know the basic concepts, terms &amp; provisions of Mercantile and Business Laws.</li> </ul> |
| <b>3.04<br/>Corporate Law – I</b>                         | <ul style="list-style-type: none"> <li>To describe the basic rules and concepts of corporate law.</li> <li>To understand types of companies.</li> <li>To understand rights, duties and liabilities of promoters.</li> <li>To understand the remedies available to shareholders in case of mis-statement in prospectus.</li> </ul>  |
| <b>3.05<br/>Data Base<br/>Management<br/>System – I</b>   | <ul style="list-style-type: none"> <li>To understand the fundamental elements of relational database management systems</li> <li>To understand the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.</li> <li>To improve the database design by normalization.</li> </ul>  |
| <b>3.06<br/>Structural<br/>Programming</b>                | <ul style="list-style-type: none"> <li>Understand the concept of functions, arrays, pointers and structures.</li> <li>To know the objective of programming in computer.</li> <li>To understand the features of C language.</li> <li>To use of Computer graphics to improve quality of computer.</li> </ul>   |

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| <b>and Computer Graphics – I</b> | <ul style="list-style-type: none"> <li>• To understand the function of Conditional Operators.</li> <li>• To understand the concept of Algorithms.</li> </ul> |
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#### IV Sem.

| Course  | Outcomes   |
|---|--|
| <b>4.01 Corporate Accounting – II</b>                         | <ul style="list-style-type: none"> <li>• To learn about holding company accounts.</li> <li>• To understand the concept of amalgamation and internal reconstruction of companies.</li> <li>• To provide information about accounting of banking companies.</li> <li>• To learn about liquidation of companies.</li> </ul>   |
| <b>4.02 Business Statistics – II</b>                          | <ul style="list-style-type: none"> <li>• To understand the concept of index number and it's various components.</li> <li>• To learn about Time series, its different models and various methods.</li> <li>• To learn about the concept of probability and its various approaches.</li> <li>• To provide an overview about Bayes' theorem.</li> <li>• To provide an overview of Binomial, Poisson and Normal distribution.</li> </ul> |
| <b>4.03 Business Regulatory Framework – II</b>                | <ul style="list-style-type: none"> <li>• To learn the conditions of the Partnership Act.</li> <li>• To evaluate the conditions and warranties of Sale of Goods Act.</li> <li>• To make students aware about right to information.</li> <li>• To learn about the usage of negotiable instruments in practical life.</li> </ul>  |
| <b>4.04 Corporate Law – II</b>                                | <ul style="list-style-type: none"> <li>• To understand duties and rights of liquidators.</li> <li>• To understand types of shares.</li> <li>• To understand powers, duties and liabilities of directors.</li> <li>• To know about provisions regarding shareholders meetings.</li> </ul>   |
| <b>4.05 Data Base Management System – II</b>                  | <ul style="list-style-type: none"> <li>• To introduce students to the user interface environment.</li> <li>• To study database design DDLC.</li> <li>• To understand concept of DBMS and RDBMS</li> </ul>  |
| <b>4.06 Structural Programming and Computer Graphics - II</b> | <ul style="list-style-type: none"> <li>• Understand the basic Technology used in computer programming.</li> <li>• Increase the ability to learn new programming language.</li> <li>• To understand C language.</li> </ul>  |

#### V Sem.

| Course  | Outcomes   |
|---|--|
| <b>5.01<br/>Taxation Law – I</b>  | <ul style="list-style-type: none"> <li>To familiarize students with Income Tax Act 1961.</li> <li>To understand about all five heads of Income in detail.</li> <li>To know the incomes which are exempted from tax.</li> <li>To understand deductions U/S 80C to 80U for Tax Planning.</li> </ul>  |
| <b>5.02<br/>Cost Accounting – I</b>   | <ul style="list-style-type: none"> <li>To learn the concept related to cost, its classification, methods and techniques.</li> <li>To familiarize students with the labour cost, methods of wage payment and incentive schemes.</li> <li>To gain the knowledge about overheads.</li> <li>To learn how to control cost and how to do cost reduction.</li> </ul>  |
| <b>5.03 Accounting for Management</b>   | <ul style="list-style-type: none"> <li>To equip the students with the ability to interpret &amp; use Accounting Information in Managerial Decision Making.</li> <li>To understand application of Accounting Techniques for Management.</li> <li>To understand calculation &amp; use of Ratios in companies.</li> <li>To make students able to understand &amp; prepare Cash Flow Statement.</li> <li>To familiarize students with the concept of Capital budgeting &amp; Capital Rationing.</li> </ul> |
| <b>5.04<br/>Financial Market Operations</b>                                   | <ul style="list-style-type: none"> <li>To make students understand about the basic financial structure of India.</li> <li>To introduce students with the working of primary and secondary markets.</li> <li>To learn about merchant banking, investor's protection, credit rating and role of SEBI.</li> <li>To understand concept of mutual fund and development banks in India.</li> <li>To learn about the concept of stock exchange functionaries.</li> </ul>                                      |
| <b>5.05<br/>Computer Aided Drafting &amp; Advanced Topics in Computer – I</b> | <ul style="list-style-type: none"> <li>To understand the concepts and underlying theory of modeling and the usage of models.</li> </ul>  |
| <b>5.06<br/>Essentials of E-Commerce</b>                                      | <ul style="list-style-type: none"> <li>To understand the basics of E-commerce, current and emerging business models.</li> <li>To enhance the students' skills for designing and developing websites.</li> <li>To identify the emerging modes of e-payment.</li> <li>To understand the role of Customer Relationship Management in industry.</li> </ul>   |

#### VI Sem.

| Course                            | Outcomes  |
|-----------------------------------|---|
| <b>6.01<br/>Taxation Law – II</b> | <ul style="list-style-type: none"> <li>To calculate total taxable income and tax liability of an Individual, HUF, Firm, AOP and BOI.</li> <li>To know about Income Tax Authorities and their powers.</li> </ul> |

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|  | <ul style="list-style-type: none"> <li>• To introduce procedure for assessment.</li> <li>• To understand the recovery and refund of tax.</li> <li>• To understand the Concept of TDS, TCS, Advance Tax, Penalties, Offences and Prosecutions.</li> </ul>   |
| <b>6.02<br/>Cost Accounting – II</b>   | <ul style="list-style-type: none"> <li>• To understand the concept of process costing and inter-process profit.</li> <li>• To understand contract costing, standard costing and marginal costing.</li> <li>• To identify the specifics of different costing methods.</li> <li>• To help the students to prepare budget.</li> </ul>   |
| <b>6.03<br/>Financial Management</b>   | <ul style="list-style-type: none"> <li>• To study nature &amp; scope of Financial Management.</li> <li>• To understand financial decision &amp; dividend decision.</li> <li>• To study about Cost of Capital &amp; Capital structure theories.</li> <li>• To understand working capital management.</li> </ul>   |
| <b>6.04<br/>Auditing</b>   | <ul style="list-style-type: none"> <li>• To introduce basic concepts of Auditing, the need and importance of Auditing.</li> <li>• To understand the Audit Procedures.</li> <li>• To understand the qualification, appointment, powers, duties and liabilities of company auditors.</li> <li>• To equip the students with the process of preparing the audit reports.</li> </ul>  |
| <b>6.05<br/>Computer Aided Drafting &amp; Advanced Topics in Computer – II</b> | <ul style="list-style-type: none"> <li>• To understand the computer aided design and knowledge based expert system.</li> <li>• To help students in learning robot programming language and methods.</li> <li>• To understand the multimedia and computer graphics.</li> </ul>  |
| <b>6.06<br/>Information Technology in Business</b>                             | <ul style="list-style-type: none"> <li>• To understand the impact of social media on business.</li> <li>• To enhance creativity by utilizing Information Technology development model in the construction of business websites.</li> <li>• To be familiar with new technologies in IT useful in modern era.</li> <li>• To understand and apply the various database concepts and tools in the related business areas with the help of suggested popular software.</li> </ul> |

| Course | Outcome |
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### **Name Of Program: B.B.A.**

#### **Program Outcomes**

- To provide adequate basic understanding about management education among the students.
- To prepare student to exploit opportunities being newly created in the management profession.
- To train the students in communication skills effectively.
- To develop appropriate skills in the students so as to make them competent and provide themselves self-employment.
- To include entrepreneurial skills.

#### **Program Specific Outcomes**

- Bridges gap between theoretical framework and real time applications in organization via summer training and workshops
- Provides a complete package to students, covering intensive curriculum, extension lectures, personality development, industry exposure, etc
- Students are prepared for CAT and other MBA entrance examinations; competitive exams for banks and government jobs
- Develop the skills so students can join decent jobs in companies, banking sector, government jobs and in education sector
- Can pursue post-graduation in management, commerce, economics and allied areas.

| Semester- 1  |   |
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| BUSINESS ORGANISATION<br>BBAN101                     | <ul style="list-style-type: none"> <li>• Know about the different type of business activity</li> <li>• Learn about different form of business and merit and demerits of these.</li> <li>• Gain knowledge about start up a new business i.e. how much capital required, what are skill and knowledge required.</li> <li>• Understand about SEBI and its rules and policy in brief.</li> <li>• Know about the business environment and its component.</li> </ul>        |
| BUSINESS MATHEMATICS<br>BBAN 102                     | <ul style="list-style-type: none"> <li>• To learn the concept of sets and its applications.</li> <li>• To understand the laws of indices and logarithms (properties).</li> <li>• To understand permutations and combinations.</li> <li>• To learn to forms sequences and find A.P. and G.P.</li> <li>• To interpret data using graphs and charts.</li> </ul>  |
| FINANCIAL ACCOUNTING<br>BBAN103                      | <ul style="list-style-type: none"> <li>• Understanding of accounting concept, terminology, principles and guidelines and its application as information system for decision making .</li> <li>• Understanding recording mechanism of transactions</li> <li>• Preparation of Cash book, journals , subsidiary books</li> <li>• Preparation of Financial statements and its significance and implication in diagnosing financial performance of organization</li> </ul> |
| COMPUTER FUNDAMENTA L<br>BBAN 104                    | <ul style="list-style-type: none"> <li>• Computer proficiency is increasingly indispensable in every sector that is job sector, teaching and learning sector.</li> <li>• Computer learning programs give students the opportunity to expand their horizons to learn skills they would have the opportunity to acquire in traditional classroom.</li> </ul>  |
| BUSINESS COMMUNICATION<br>BBAN 105                   | <ul style="list-style-type: none"> <li>• To know how communication works and why it is important in business scenario. Learning techniques of effective writing ( professional documents, resumes etc.) and how to present in public and interpersonal communication</li> </ul>   |
| MICRO-ECONOMICS FOR<br>BUSINESS DECISION<br>BBAN 106 | <ul style="list-style-type: none"> <li>• Understanding basics of economy and its subject matter.</li> <li>• Understanding of demand and supply behavior to manage demand and supply profit maximization in the organization.</li> <li>• Understanding on various market structures and its implication on consumer and firm behavior.</li> </ul>  |
| Semester- 2  |   |
| PRINCIPLES OF MANAGEMENT<br>BBAN201                  | <ul style="list-style-type: none"> <li>• Learn features of management that are used by successful managers to know how they do and what they do. The course teaches fundamentals of management: planning, organizing, leading and controlling and its impact on business.</li> </ul>  |
| MACRO ECONOMICS<br>BBAN – 202                        | <ul style="list-style-type: none"> <li>• Understand the concepts of macroeconomics with identifying determinants of National income.</li> <li>• Know about concepts of money and banking with basic</li> </ul>  |



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|  | working of monetary and fiscal policy   |
| COMPANY ACCOUNTS<br>BBAN 203                       | <ul style="list-style-type: none"> <li>• Insights into mechanism of raising money public through shares , debentures and related transactions</li> <li>• Understanding accounting process and legal formalities on redemption of debentures, preference shares , buyback of equity</li> <li>• Insights into legal formalities on preparation and format of financial statements for Companies as per Companies Act 2013.</li> <li>• Specific accounting procedure adopted in banking and Insurance Companies with special emphasis on NPA , income recognition , asset classification , capital adequacy</li> <li>• Valuation practices on goodwill and shares</li> </ul> |
| COMPUTER APPLICATIONS IN<br>MANAGEMENT<br>BBAN 204 | <ul style="list-style-type: none"> <li>• Helps to develop an appreciation of different software and hardware systems available in industry.</li> <li>• Develop basic understanding about the software programs applied for office automation, DBMS.</li> </ul>  |
| Organization behaviour<br>BBAN 205                 | <ul style="list-style-type: none"> <li>• Able to understand about the psychology of employees.</li> <li>• Learn the interpersonal communication and conflict at workplace and how to be solve it.</li> <li>• Identified the organization structure and design.</li> <li>• Able to understand about stress management and to tackle it.</li> </ul>   |
| BUSINESS STATISTICS<br>BBAN206                     | <ul style="list-style-type: none"> <li>• Learning art of data classification and presentation to help in data interpretation and decision making for managers</li> <li>• Techniques of condensing data through various averages and its application</li> <li>• Knowledge of various statistical tools such as regression , correlation for studying movement in data and relationships</li> <li>• Identifying short and long term trends in data through time series</li> <li>• Knowledge of index number to gauge economic activities.</li> </ul>  |
| Semester- 3  |   |
| COST AND MANAGEMENT<br>ACCOUNTING<br>BBAN 301      | <ul style="list-style-type: none"> <li>• Able to learn the calculation of cost of a product.</li> <li>• Understand the tools and techniques of management accounting how it's helpful to take managerial decision making</li> <li>• Learn about the allocation, absorption, apportion of cost in different centers.</li> <li>• Identified about responsibility accounting and how to create responsibility centers.</li> <li>• Learn difference between cost accounting and financial accounting.</li> <li>• This course is helpful in doing ICWA</li> </ul>  |
| MARKETING MANAGEMENT<br>BBAN- 302                  | <ul style="list-style-type: none"> <li>• Introducing marketing as core business function: its principle and practices, theoretical framework and changing marketing scenarios. The course covers marketing process, consumer buying process, marketing intelligence systems and detailed coverage of 4ps</li> </ul>   |
| CAPTIAL MARKET<br>BBAN 303                         | <ul style="list-style-type: none"> <li>• Practical knowledge on Corporate practices of raising capital through IPO , Private placement, book building,</li> </ul>   |

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|  | <p>venture capital</p> <ul style="list-style-type: none"> <li>Working knowledge on placing and settlement of order in stock market , dematerialization of stocks</li> <li>Knowledge on various instruments used in debt market , capital market and money market</li> <li>Understanding role of SEBI</li> <li>Knowledge on mutual funds , SIP for investment decision</li> </ul>  |
| INTRODUCTION TO INFORMATION TECHNOLOGY<br>BBAN 304 | <ul style="list-style-type: none"> <li>To understand the concept of MS windows and MS office.</li> <li>MS Word/ MS office in theoretical as well as in practical form.</li> <li>Subject also includes Tally. It helps to understand that how can user do accounting transactions online.</li> </ul>   |
| ENVIRONMENT STUDIES<br>BBAN 305                    | <ul style="list-style-type: none"> <li>Environmental study is all about learning the way we should live and how we can develop sustainable strategies to protect the environment.</li> <li>It helps students to develop an understanding of living and physical environment and how to resolve challenging environment issues affecting nature.</li> </ul>  |
| DISASTER MANAGEMENT<br>BBAN 306                    | <ul style="list-style-type: none"> <li>Disaster management is very important to in case of natural or a major manmade disaster.</li> <li>It can be defined as organization and management of resources.</li> <li>It enables us to deal with all humanitarian aspects of emergencies in particular preparedness and response.</li> </ul>   |
| Semester- 4  |   |
| FINANCIAL MANAGEMENT<br>BBAN 401                   | <ul style="list-style-type: none"> <li>Knowledge on basics of finance and its significance in day to day and corporate life.</li> <li>Understanding concept on time value of money and its use in investment decision</li> <li>Knowledge on decisions taken under corporate finance .</li> <li>Knowledge on cash management techniques and investment avenues for idle cash</li> <li>Knowledge on working capital management practices</li> <li>In short students starts understanding various nuances of finance for daily applications.</li> </ul>  |
| HUMAN RESOURCE MANAGEMENT<br>BBAN 402              | <ul style="list-style-type: none"> <li>To understand importance and functions of human resource management and learn qualities of HR manager in an organization</li> <li>To understand the employee recruitment and selection program and how they are trained for job</li> <li>To understand compensation system and how employees' performance is appraised</li> <li>To learn How career planning and career succession is carried out in an organization</li> <li>To know various measures opted to maintain health, safety of employees and making workplace suitable to work.</li> </ul> |
| BUSINESS RESEARCH MANAGEMENT<br>BBAN- 403          | <ul style="list-style-type: none"> <li>Understanding why research is important in dynamic business environment. At the end of course students</li> </ul>  |

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|  | <p>know what are the various kinds of researches used in social sciences, what systematic processes of research and sampling are used. They will also learn to analyze data using various bivariate and multivariate techniques</p>   |
| <p>Business laws<br/>BBAN 404</p>                      | <ul style="list-style-type: none"> <li>• Able to know about contract and legal formalities to make a contract valid.</li> <li>• Learn about the consequences of breach of contract, penalties regarding this.</li> <li>• Know about the sale of goods act, 1930, contract of sale, conditions and warranties regarding it.</li> <li>• Understand about the Negotiable Instrument act, 1881 and different type of instrument such B/R, B/P.</li> <li>• Understand about Right to Information act 2005, and procedure to obtaining information under this act.</li> </ul>   |
| <p>DATA BASE MANAGEMENT SYSTEM<br/>BBAN 405</p>        | <ul style="list-style-type: none"> <li>• Report management.</li> <li>• Faster attendance management.</li> <li>• Effortless Assignment management.</li> <li>• Increased Data Security.</li> </ul>  |
| <p>HUMAN RIGHTS AND VALUE<br/>BBAN 406</p>             | <ul style="list-style-type: none"> <li>• Know about the Constitution of India. Know about the 6 fundamental rights of citizens. Core issues behind the deprivation of human rights.</li> <li>• Understand about redressal mechanisms for violation of human rights. Government system for redressal judiciary – national human rights commission and other commission.</li> <li>• Understand about the concept of human values and aims of value education</li> </ul>   |
| Semester- 5  |   |
| <p>PRODUCTION AND MATERIAL MANAGEMENT<br/>BBAN 501</p> | <ul style="list-style-type: none"> <li>• Production activity in organization and its cross departmental significance</li> <li>• Role of production manager and stakeholder expectations in modern context</li> <li>• Decision taken under production management and its impact on cost , profitability and customer satisfaction. This help students in visualizing the layout of departmental store, service store and space allocation to various activities at home or commercial organization to optimize profitability and efficiency .</li> <li>• Knowledge on material procurement , storage , transportation, logistics that enables students to take up the task of merchandising, store management , coordination with vendors and suppliers</li> </ul> |
| <p>COMPANY LAW<br/>BBAN 502</p>                        | <ul style="list-style-type: none"> <li>• Able to learn about company act 1956, amendments of companies act.</li> <li>• Able to understand how to be a company being registered and incorporated and what is the document required for registered.</li> <li>• Learn about prospectus of co. contents and forms of it and need and importance and golden rules in prospectus. Legal requirements regarding issue of prospectus.</li> <li>• Identified the different type of company meetings. Who may call such meetings, how to be quorum being formed</li> </ul>  |

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|   | <p>how to be resolution be passed in meeting, how to be minutes books is maintained.</p> <ul style="list-style-type: none"> <li>• This course is helpful for doing CS and CA</li> </ul>   |
| INDIAN BUSIESS ENVIORMENT<br>BBAN 503                       | <ul style="list-style-type: none"> <li>• Know about the concept and components of business environment .new economic policy of India 1991 and knew about LPG</li> <li>• Learn about SMES enterprises growth and problems regarding these.</li> <li>• Understand about international institution IMF, WORLD BANK, WTO, GATT and foreign collaboration in India.</li> <li>• This paper is also helpful for preparation of competitive exams like NET and banking</li> </ul> |
| COMPUTER NETWORKING AND INTERNET<br>BBAN 504                | <ul style="list-style-type: none"> <li>• Recognise the technological trends of computer networking.</li> <li>• Evaluate the challenges in building networks and solution to those.</li> <li>• Have a basic knowledge.</li> </ul>  |
| PRESENTATION SKILLS AND PERSONALITY DEVELOPMENT<br>BBAN-505 | <ul style="list-style-type: none"> <li>• Know significance of soft skills in professional and inter-personal communications and facilitate an all-round development of personality.</li> <li>• Understand the psycho-physical aspects of personality and learning suitable and acceptable kind in different scenarios.</li> </ul>   |
| CYBER SECURITY<br>BBAN 506                                  | <ul style="list-style-type: none"> <li>• To analyse and resolve security issues in networks and computer system to secure in IT infrastructure.</li> <li>• To design, develop, test and evaluate secure software.</li> <li>• To develop policies and procedures to manage enterprise security risks</li> </ul>  |
| Semester- 6   |   |
| INCOME TAX<br>BBAN 601                                      | <ul style="list-style-type: none"> <li>• Understanding Concept of income tax and its legal terminology</li> <li>• Knowledge on various residential status and difference in tax implication for resident and non resident</li> <li>• Knowledge of various income heads and its application for tax saving.</li> <li>• Knowledge on exemption, deductions, adjustment of losses for tax savings.</li> <li>• Computation of Income tax and filing of ITR</li> </ul>         |
| SYSTEM ANALYSIS AND DESIGN<br>BBAN 602                      | <ul style="list-style-type: none"> <li>• Understand the software process models and project management activities involved in the development of a system.</li> <li>• Design software system from the individual component to the entire system architecture using object oriented methodologies.</li> </ul>  |
| INTERNATIONAL BUSINESS<br>BBAN- 603                         | <ul style="list-style-type: none"> <li>• To understand nature, scope, structure and operations of international business and familiarizing with trends and developments in India's foreign trade; political, economic and cultural systems; organizing international logistics and supply chain; foreign currency exchange and risks involved</li> </ul>  |
| CONSUMER PROTECTION<br>BBAN 604                             | <ul style="list-style-type: none"> <li>• Awareness about the consumer rights</li> <li>• Learn how to make complain if their rights violated three tier judiciary mechanism.</li> </ul>  |

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|                         | <ul style="list-style-type: none"> <li>• Understand about misleading advertising and how they fraud consumers.</li> <li>• Main propose to introduce this paper to make awareness about their rights and give knowledge about consumer protection act 1986.</li> </ul>     |
| E- COMMERCE<br>BBAN 605 | <ul style="list-style-type: none"> <li>• To introduce to the online marketing</li> <li>• Introduce to the E-Commerce concepts.</li> <li>• Show how some of the technologies detailed in the course are used in concert to realize a typical commercial system.</li> </ul> |

## **Postgraduate Courses**

### **Name of Program: M.A. English**

### **Program Outcomes**

- To make the students research oriented.
- To prepare them for further higher education like M.Phil., Ph.D.
- To connect them directly with life through literature as there is a direct bond between life and literature.
- To develop the aesthetic sense for literature.
- To inculcate human values through literature.
- To analyze and compare the life presented in literature with their real lives.

### **Program Specific Outcomes**

- To make them aware with the literary history.
- To enhance critical awareness and intellectual ability in them.
- To familiarize them with the nature of literary cannons.
- To familiarize them with a wide range of British and American literary works as well as with the authors and works of other literatures including folk and popular forms.
- To develop them with the four linguistic skills such as reading, writing, listening and speaking.

### **Course Outcomes**

| Semester- I   |   |
|---|---|
| Course- I English Literature (1350-1660)-I<br>Code: 16ENG21C1   | <ul style="list-style-type: none"><li>• This course precedes the history of the prescribed period.</li><li>• It also explains the origin of English poetry, different Sonnet structures, Epic and Metaphysical poetry.</li></ul>                                |
| Course- II English Literature (1350-1660) II<br>Code: 16ENG21C2 | <ul style="list-style-type: none"><li>• This course deals with the origin and development of English drama.</li><li>• The students are able to differentiate different literary forms such as drama, poetry, novel and play.</li></ul>                          |
| Course- III English Literature (1660-1798) I<br>Code: 16ENG21C3 | <ul style="list-style-type: none"><li>• This course makes students familiarized with the writers of Neo- Classical and Pre-Romantics period.</li><li>• Students are able to find out the difference between Comedy of Manners and Sentimental Comedy.</li></ul> |
| Course- IV English Literature (1660-1798) II<br>Code: 16ENG21C4 | <ul style="list-style-type: none"><li>• This course offers an introduction to the rise of English Fiction and Essays.</li></ul>   |

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|   | <ul style="list-style-type: none"> <li>The prescribed texts help the students to learn human values and the behavioral patterns from the great works of art and develop the ability to understand the human race.</li> </ul>   |
| Course- V Study of Language- 1<br>Code: 16ENG21C5               | <ul style="list-style-type: none"> <li>Students are given basic information about English sounds and phonetic transcription in British English.</li> <li>The learner are sensitized regarding the nuances of English speech sounds, word accent, intonation and rhythm.</li> <li>This course aims to familiarize the students with the theories, approaches, methods and specific techniques concerning the teaching of English Language.</li> </ul> |
| Semester – II   |  |
| Course - VI English Literature (1798-1914) 1<br>Code: 16ENG22H1 | <ul style="list-style-type: none"> <li>Students are able to understand the history of the prescribed period.</li> <li>Students are able to appreciate poetry as a literary art.</li> </ul>   |
| Course VII English Literature (1798-1914) II<br>Code: 16ENG22H2 | <ul style="list-style-type: none"> <li>Students come to know about the origin and development of Victorian drama and its themes and forms.</li> <li>The learner are able to understand the insights, genres, conventions and experimentations associated with English drama and correlate the knowledge of historical, socio-political, and religious trends presented in the plays.</li> </ul>  |
| Course-VIII (option-1) Study of Language-II<br>Code: 16ENG22H3  | <ul style="list-style-type: none"> <li>Students are able to use Transformational Grammar in their daily routine.</li> <li>They are able to compare Linguistics, Morphology and Semantics.</li> </ul>   |
| Course-IX option- 1 Drama Studies -1<br>Code: 16ENG22D1         | <ul style="list-style-type: none"> <li>Students are able to realize the importance of Indian Classical drama.</li> <li>They are able to compare dialogues and situations included in dramas which are written in two different languages i.e. Sanskrit and English.</li> </ul>   |
| Course X Drama Studies- II<br>Code: 16ENG22D3                   | <ul style="list-style-type: none"> <li>Students are able to enjoy various types of theatres.</li> <li>The knowledge of theatre makes them a good artist and performer.</li> </ul>  |
| Semester- III   |  |

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| Course-XI English Literature (1914-1950)<br>Code: 17ENG23C1         | <ul style="list-style-type: none"> <li>• The course introduces the novels which are written after World War 1 and 2.</li> <li>• It enables the students to analyze literature and fiction using appropriate theatrical, historical and cultural apparatus.</li> <li>• Students are getting to know about various cultures, construction of gender, and race.</li> </ul>   |
| Course-XII Indian Writings in English-1<br>Code: 17ENG23C2          | <ul style="list-style-type: none"> <li>• This course offers Indian literature from Pre-Independence to Post-Modern period.</li> <li>• Students are able to acknowledge the different phases come in Indian literature such as problems faced by people before independence, poverty, Indian peasantry, British oppression, effects of industrialization, status of women and compare them with post-modern material world.</li> </ul> |
| Course XIII Diasporic Literature- 1<br>Code: 17ENG23C3              | <ul style="list-style-type: none"> <li>• This course helps students in understanding literature of scattered population.</li> <li>• The issues of cultural identity, nostalgia, alienation and sense of loss will be defined to them which are the prominent elements of Diasporic literature.</li> </ul>   |
| Course XIV Literary Criticism and Theory 1<br>Code: 17ENG23C4       | <ul style="list-style-type: none"> <li>• Students are familiarized with the basic literary theories.</li> <li>• It will develop a critical sense in them.</li> </ul>  |
| Course XV Literature and Ethnicity 1 (option-1)<br>Code: 17ENG23SD1 | <ul style="list-style-type: none"> <li>• Students are known to various ethnic groups flourished in all over the world.</li> <li>• It develops a comparative sense for literature in them.</li> </ul>  |
| Semester – IV   |   |
| Course- XVI English Literature (1950 Onwards)<br>Code: 17ENG24C1    | <ul style="list-style-type: none"> <li>• Student's gains knowledge of the major traditions of literature written after 1950.</li> <li>• They will develop an ability to read texts in relation to their historical and cultural contexts.</li> </ul>  |
| Course- XVII Indian Writings in English- II<br>Code: 17ENG24C2      | <ul style="list-style-type: none"> <li>• The objective of this course is to familiarize the students with the emergence and growth of Indian writings in English in the context of Colonial experience.</li> <li>• This course discusses issues concerning Indian writings in English such as</li> </ul>  |



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|  | representation of culture, identity, history, construction of nation, gender politics and cross- cultural transformation.  |
| Course- XVIII American Literature<br>Code: 17ENG24C3             | <ul style="list-style-type: none"> <li>• This course offers introduction to American dream, race, ethnicity, multiculturalism and realism.</li> <li>• The students inculcate a rhetorical approach to the literary study of American texts, conceptions, generalizations, myths and beliefs about American cultural history.</li> </ul>                                    |
| Course- XIX Literary Criticism and Theory- II<br>Code: 17ENG24C4 | <ul style="list-style-type: none"> <li>• The students are familiarized with the basic theories, areas, and analytical tools of the critical field through a number of contemporary and historical schools of literary world.</li> <li>• The students are able to explore the texts, and explain the theories of prescribed critics.</li> </ul>                             |
| Course- XX Literature and Ethnicity- II<br>Code: 17ENG24D1       | <ul style="list-style-type: none"> <li>• This course focuses on prose, poetry and drama in English language produced by Indian, Australian, New Zealand, and Native American writers.</li> <li>• The students are able to get to know the various themes of liberation, independence, tradition, modernity, individualism, community, socialism and capitalism.</li> </ul> |

## **Name of Program: M.A. Economics**

### **Program Outcomes**

- Students are able to pinpoint and understand the past, present economic conditions of the country.
- Students are also able to forecast the future course of changes and development through their knowledge of policies and programs set by the governments and other development agencies.
- Students are able to analyze human behavior, problems or situations from social science, cross-cultural and global perspectives.

### **Program Specific Outcomes**

- To impart in depth knowledge to students about economic theory regarding utilization and allocation of resources including labor, natural resources and capital.
- To develop students understanding about how market for goods and services function and how income is generated and distributed.

- To give students in depth knowledge into special fields of choice like agricultural economics, industrial economics, financial market, development economics, international trade, urban economics econometrics, mathematical economics etc.

### **Course Outcome**

| <b>SEMESTER- 1</b>  |   |
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| <b>Micro Economics- I (16ECO21C1)</b>                     | <ul style="list-style-type: none"> <li>• It makes students aware about how various economic agents behave optimally given the scarce economic resource and other constraints.</li> <li>• A comprehensive knowledge of Microeconomics empowers the social reality with better arguments and optimum solutions.</li> </ul>  |
| <b>Macro Economics-I (16ECO21C2)</b>                      | <ul style="list-style-type: none"> <li>• Students are able to explain the concept of opportunity costs, trade –off and benefits of economics.</li> <li>• Students learn the concept of fiscal and monetary policies and their effect on economy.</li> <li>• It demonstrates knowledge of laws of supply and demand and equilibrium.</li> </ul>  |
| <b>Economics of Growth and Development -I (16ECO21C3)</b> | <ul style="list-style-type: none"> <li>• After studying role of various factors in economic development, different theories of development, Measurement of Development, Poverty, Inequality. Students are sensitized to various dimensions of economic development.</li> <li>• They learn that development is much more than just higher incomes and that human development is the ultimate goal of development.</li> </ul> |
| <b>Mathematics for Economists-I (16ECO21C4)</b>           | <ul style="list-style-type: none"> <li>• Students learn different types of functions and their applications.</li> <li>• Students get familiar with the maxima and minima of functions.</li> <li>• It imparts knowledge about the use of LaGrange multiplier methods.</li> </ul>   |
| <b>Statistical Methods - I (16ECO21C5)</b>                | <ul style="list-style-type: none"> <li>• Students would be able to apply fundamental concepts and use appropriate software tools for data summary and exploratory data analysis.</li> <li>• Students would gain knowledge to interpret examples of methods for summarizing data sets, including common graphical tools and summary statistics.</li> </ul>   |

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| <b>SEMESTER – 2</b>  |  |
| <b>Micro Economics- II (16ECO22C1)</b>                       | <ul style="list-style-type: none"> <li>• It familiarizes the students with different types of economic models.</li> <li>• Students get to know the different market structure.</li> <li>• It provides information to the students about the distribution of income and wealth.</li> </ul>  |
| <b>Macro Economics-II (16ECO22C2)</b>                        | <ul style="list-style-type: none"> <li>• It helps the students to apply supply and demand models to analyze responses of market to external events.</li> <li>• It helps students to describe ISLM model.</li> <li>• The course illustrates the role of financial institutions in the economy.</li> </ul>   |
| <b>Economics of Growth &amp; Development – II(16ECO22C3)</b> | <ul style="list-style-type: none"> <li>• Imparts understanding of the basic assumption and features of economic growth and development.</li> <li>• Provides understanding of the relevance of historical perspective of economic growth.</li> <li>• To impart theoretical knowledge about the concepts of poverty, inequality and development gap.</li> </ul>  |
| <b>Mathematics for Economists-II (16ECO22C4)</b>             | <ul style="list-style-type: none"> <li>• The course introduces the concepts of differentiation and integration and application in economics.</li> <li>• The course imparts knowledge of matrices and determinants to the students and their applications in economics.</li> </ul>  |
| <b>Statistical Methods-II (16ECO22C5)</b>                    | <ul style="list-style-type: none"> <li>• To make the students familiar with the terminology of statistical terms: Population, Sample, Parameter, Statistic, and Descriptive Statistic.</li> <li>• The objective of this course is to impart knowledge of probability and standard statistical distributions to students and make them able to perform complex data management and analysis.</li> </ul> |
| <b>Managerial Economics (16ECO22SO2)</b>                     | <ul style="list-style-type: none"> <li>• Students get skilled in critical thinking and decision-making, supported by economics principles and best practices in business.</li> <li>• It designs competition strategies, including costing pricing, market environment according to the natures of products and the structures of the markets.</li> </ul>   |
| <b>SEMESTER – 3</b>  |  |
| <b>Indian economy-1 (17ECO23C1)</b>                          | <ul style="list-style-type: none"> <li>• To know about the features of Indian economy as an underdeveloped economy &amp; developing economy.</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>• To know about Indian planning objectives, strategies, failures and achievements of plans.</li> <li>• To know about land- reforms, agriculture marketing India and agriculture finance and agriculture price policy in India.</li> </ul>   |
| <b>International Trade and Finance-I(17ECO23C2)</b>                      | <ul style="list-style-type: none"> <li>• Students get to know the country's position regarding international trade, payments and foreign exchange.</li> <li>• Students get to know about the policies regarding increase in exports, to deal with international institutions and to maintain relation with other countries. Since globalization and international relations can increase the rate of growth and solve domestic problems like inflation, unemployment and value of currency etc.</li> </ul> |
| <b>Public Economics-I (17ECO23D5)</b>                                    | <ul style="list-style-type: none"> <li>• The students learn about the features of federal structure and financial relationship among them.</li> <li>• The course develops the analytical ability of students to distinguish between beneficial and detrimental effects of a government policy and their effect on macroeconomics framework of an economy.</li> </ul>   |
| <b>Financial Institutions and Markets - I (17ECO23D4)</b>                | <ul style="list-style-type: none"> <li>• Students gain knowledge regarding money market, capital market, stock exchange i.e. Indian Financial System which is the backbone of the country.</li> <li>• To impart knowledge to students about controller of financial system, e.g. RBI, SEBI, IRDA and TERI.</li> </ul>  |
| <b>Econometrics-I (17ECO23D3)</b>  | <ul style="list-style-type: none"> <li>• This course work provides a path to follow research in general area of economics and business.</li> <li>• Students gain understanding of primarily about estimation and hypothesis testing. What is different and generally much more interesting and useful is that parameter being estimated and tested are not just means and variances but relationship between variables, which is much of economics and other social sciences.</li> </ul>                   |
| <b>Agricultural Economics-I (Discipline Specific Course) (17ECO23D1)</b> | <ul style="list-style-type: none"> <li>• Course provides knowledge agricultural background, farm and agro business activities, agro finance and management.</li> <li>• It introduces learner applied part of</li> </ul>  |

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|   | economics instead theoretical, which deals with allocation of land under various crops, specialization, diversification and other policy amplifications.   |
| <b>FUNDAMENTALS OF MARKETING, Semester 3<sup>rd</sup> (16IMSO2)</b> | <ul style="list-style-type: none"> <li>This course is designed to promote understanding of concepts, philosophies, processes and techniques of managing marketing operation and to develop a feel of the market.</li> </ul>  |
| <b>SEMESTER – 4</b>   |  |
| <b>Indian Economy-2 (17ECO24C2)</b>                                 | <ul style="list-style-type: none"> <li>To know about the role of Indian agriculture in economic development &amp; technological change in agricultural.</li> <li>To know about L.P.G. policy in India, public sector enterprises, small &amp; cottage industries, Issue of privatization, unemployment and migration in India.</li> <li>To know about foreign trade &amp; foreign capital in India and role of MNCs in India.</li> </ul>   |
| <b>International Trade and Finance-II (17ECO24C2)</b>               | <ul style="list-style-type: none"> <li>Students get to know about the country's position regarding international trade, payments and foreign exchange.</li> <li>Students get to know about the policies regarding increase in exports, to deal with international institutions and to maintain relation with other countries. Since globalization and international relations can increase the rate of growth and solve domestic problems like inflation, unemployment and value of currency etc.</li> </ul> |
| <b>Public Economics-II (Discipline Specific Course) (17ECO24D5)</b> | <ul style="list-style-type: none"> <li>The students learn about the feature of federal structure and financial relationship among them.</li> <li>The course develops the analytical ability of students to distinguish between beneficial and detrimental effects of a government policy and their effect on macroeconomics framework of an economy.</li> </ul>  |
| <b>Econometrics –II (Discipline Specific Course) (17ECO24D3)</b>    | <ul style="list-style-type: none"> <li>Course work provides a path to follow research in general area of economics and business.</li> <li>Students gain understanding of primarily about estimation and hypothesis testing. What is different and generally much more interesting and useful is that parameter being estimated and tested are not just</li> </ul>  |

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|   | means and variances but relationship between variables, which is much of economics and other social sciences.   |
| <b>Agricultural Economics-II (Discipline Specific Course) (17ECO24D1)</b>             | <ul style="list-style-type: none"> <li>• Course provides knowledge agricultural background, farm and agro business activities, agro finance and management.</li> <li>• It introduces learner applied part of economics instead theoretical, which deals with allocation of land under various crops, specialization, diversification and other policy amplifications.</li> </ul>  |
| <b>Financial Institutions and Markets-II (Discipline Specific Course) (17ECO24D4)</b> | <ul style="list-style-type: none"> <li>• Course work provides a path to follow research in general area of economics and business. Students would gain understanding of primarily about estimation and hypothesis testing.</li> <li>• What is different and generally much more interesting and useful is that parameter being estimated and tested are not just means and variances but relationship between variables, which is much of economics and other social sciences.</li> </ul> |

### **Name of Program: M.Sc. Chemistry**

#### **Program Outcomes:**

- Students acquire systematic and coherent understanding of the fundamental concepts in Inorganic, Physical and Organic chemistry.
  - Students are able to learn basic principle of equipment; instruments used in the chemistry laboratory and are able to demonstrate the experiments techniques and methods in chemistry.
- M.sc chemistry

#### **Program Specific Outcome**

- Understand nature of bonding and hybridization of compounds.
- Analyse the reaction mechanism and structure of transition metal complexes
- Understand the quantum mechanics, thermodynamics and electrochemistry.
- Analyse the bonding and stereochemistry of organic molecules.
- Understand the various instrumental techniques for structural study of the Compounds. Perform thermodynamic and surface studies of the liquid mixtures.
- Understand nuclear, radio analytical techniques and corrosion technology.
- Analyse the bioorganic, bioinorganic chemistry and heterocyclic chemistry and their application

#### **Course Outcome**

After completion of this course, students are able:

| COURSE  | OUTCOME  |
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| <b>INORGANIC CHEMISTRY-1<br/>( 16CHE21C1)</b> | <ul style="list-style-type: none"> <li>To know bonding in main group compounds and predict the shapes and determine the hybridization of main group compounds.</li> <li>To understand the mechanisms of ligand displacement reactions in octahedral and square planar complexes.</li> <li>Know about the structures and properties of isopropyl and heteropoly acids and salts.</li> <li>To recognize the crystal structures of selected binary and ternary compounds.</li> </ul>  |
| <b>PHYSICAL CHEMISTRY -1<br/>(16CHE21C2)</b>  | <ul style="list-style-type: none"> <li>To understand various concepts like Postulates of Quantum, Max – Born interpretation of wave functions, Heisenberg’s uncertainty principle; Quantum mechanical operators and their commutation relations</li> <li>To learn the detailed application of first and second law of thermodynamics, Entropy changes with temperature, pressure and volume, entropy concept as a measure of unavailable energy</li> <li>To learn the concept of chemical Dynamics including effect of temperature on reaction rates, Rate law for opposing reactions of 1st order and 2nd order, Rate law for consecutive &amp; parallel reactions of 1st order reactions, Collision , Activated complex theory</li> <li>To understand electrochemistry concepts for ion – ion interaction :- The Debye – Huckel theory of ion- ion interactions; potential and excess charge density as a function of distance from the central ion, Debye Huckel reciprocal length, ionic cloud and its contribution to the total potential.</li> </ul> |
| <b>ORGANIC CHEMISTRY 1<br/>(16CHE21C3)</b>    | <ul style="list-style-type: none"> <li>To differentiate chiral and achiral molecules.</li> <li>To know the relationship between enantiomers and their specific rotations.</li> <li>To differentiate simple synthesis and asymmetric synthesis of organic molecules</li> <li>To know the importance of reaction mechanism, to analyse the structure of carbohydrates, natural and Synthetic Dyes.</li> </ul>  |
| <b>COMPUTER OF CHEMISTS<br/>(16CHE21F1)</b>   | <ul style="list-style-type: none"> <li>Its daily work influence on our understanding of the way the world works</li> <li>To work with the laboratory and theoretically sciences to apply capabilities to modelling and simulation, data analysis and visualization to support their research efforts</li> <li>Programming skills include compiling FORTRAN codes and working within windows, OS and Linux environment</li> </ul>   |
| <b>INORGANIC CHEMISTRY-II</b>                 | <ul style="list-style-type: none"> <li>To explain bonding in transition metal complexes and derive</li> </ul>  |

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| <b>(16CHE22C1)</b>                           | <p>spectroscopic states from spectroscopic terms and Interpret Orgel and Tanabe-Sugano diagrams.</p> <ul style="list-style-type: none"> <li>• To explain electronic spectra of complexes.</li> <li>• Apply fundamentals of magneto chemistry in structure determination.</li> <li>• To understand the structure and bonding in selected metal clusters and transition metal complexes different methods for separation of mixtures.</li> </ul>   |
| <b>PHYSICAL CHEMISTRY 1(16CHE22C2)</b>       | <ul style="list-style-type: none"> <li>• To understand various concepts of quantum mechanics</li> <li>• To learn the detailed application of first and second law of thermodynamics Clausius – Clapeyron equation; law of mass action , Third law of thermodynamics and its limitation</li> <li>• To learn the concept of chemical Dynamics, Kinetics of enzymatic reaction</li> </ul>   |
| <b>ORGANIC CHEMISTRY –II (16CHE22C3)</b>     | <ul style="list-style-type: none"> <li>• To identify and differentiate the aromatic and aliphatic nucleophilic substitution reactions</li> <li>• To understand all different kind of mechanisms given by different compounds.</li> <li>• To know about the regio and chemo selectivity and different type of elimination and addition reaction.</li> <li>• To develop a clear understanding about the reactions for addition to a carbon-carbon and carbon- hetero bond.</li> </ul>  |
| <b>GENERAL SPECTROSCOPY (16CHE22D1)</b>      | <ul style="list-style-type: none"> <li>• To study the spectra of compounds and propose structures for compounds.</li> <li>• To determine functional groups and write structures.</li> <li>• To learn detailed study of principles and applications of UV, IR and NMR spectra.</li> </ul>   |
| <b>ENVIRONMENTAL CHEMISTRY I (16CHE2201)</b> | <ul style="list-style-type: none"> <li>• To learn the detailed application of environment, composition of the atmosphere, acid-rain, smog formation, Greenhouse effect.</li> <li>• To learn the concept of Hydrosphere: - Chemical composition of water bodies – lakes, streams rivers, sea etc. hydrological cycle, complexation in natural and waste water and microbial mediated redox reaction.</li> <li>• To understand detailed discussion on Environmental Toxicology: - chemical solutions to environmental problems, biodegradability, principles of decomposition, better industrial processes.</li> </ul> |
| <b>INORGANIC SPECIAL I (17CHE23GA1)</b>      | <ul style="list-style-type: none"> <li>• To Identify and characterize the molecule on the basis of spectroscopic study.</li> <li>• To apply vibrational spectroscopy to identify modes of bonding of ambidentate ligands and active sites of Talloproteins and apply ESR spectroscopy in transitional metals with unpaired electrons</li> </ul>  |



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| <b>INORGANIC SPECIAL II</b><br><b>(17CHE23GA2)</b>          | <ul style="list-style-type: none"> <li>To understand about various aspects of nuclear chemistry, nuclear binding energy, nuclear structure, interaction of radiation with matter and radio chemical techniques.</li> <li>To learn detection of nuclear radiations, brief idea about breeder radiators, accelerators and cyclotron.</li> </ul>  |
| <b>INORGANIC SPECIAL –III</b><br><b>(17CHE23GA3)</b>        | <ul style="list-style-type: none"> <li>To identify essential and trace elements found in nature and describe their function</li> <li>To explain how metal ions contribute to functioning of vital biological systems</li> <li>To explain the structure and function of vital metalloproteins and metalloenzymes.</li> <li>To explain the impact of foreign particles (chemicals, noise etc.) released into the atmosphere</li> </ul> |
| <b>ORGANIC CHEMISTRY SPECIAL-I</b><br><b>(17CHE23GC1)</b>   | <ul style="list-style-type: none"> <li>To determine functional groups and write structures.</li> <li>To study the spectra of compounds and propose structures for compounds.</li> <li>To elucidate the structures of organic molecules from spectral data.</li> </ul>  |
| <b>ORGANIC CHEMISTRY SPECIAL II</b><br><b>(17CHE23GC2)</b>  | <ul style="list-style-type: none"> <li>To know structure and synthesis of given vitamins.</li> <li>To know the importance and route for the synthesis of given carotene and porphyrins.</li> <li>Understanding about the biological importance and types of enzymes and coenzymes</li> </ul>   |
| <b>ORGANIC CHEMISTRY SPECIAL III</b><br><b>(17CHE23GC3)</b> | <ul style="list-style-type: none"> <li>To learn the nomenclature, synthesis and reactivity of different heterocyclic compounds.</li> <li>To learn about Nucleosides and nucleotides.</li> <li>To learn the general method of formation and reaction mechanism of slides.</li> <li>To learn relationship between physiological action and chemical constitution of different types of drugs.</li> </ul>                               |
| <b>DISASTER MANAGEMENT</b><br><b>(16ENV02)</b>              | <ul style="list-style-type: none"> <li>Disaster causes and phases of disaster, Rapid and Slow onset disasters, Trends in Climatology, Meteorology, Hydrology, Seismic activities, Coastal erosion</li> <li>Flood and Cyclones disasters and management</li> <li>Earthquake disaster and management</li> <li>Policies for disaster management</li> </ul>  |
| <b>INORGANIC SPECIAL IV</b><br><b>(17CHE24GA1)</b>          | <ul style="list-style-type: none"> <li>To define and identify an organometallic compound</li> <li>To write their structure, synthesis and reaction mechanism.</li> </ul>   |

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|   | <ul style="list-style-type: none"> <li>To apply their properties for different applications like polymerization, catalytic hydrogenation etc.</li> <li>To comment on their kinetics and stability</li> </ul>   |
| <b>INORGANIC SPECIAL<br/>V(17CHE24GA2)</b>  | <ul style="list-style-type: none"> <li>To have the knowledge of electrochemical and chemical reactions, principle of polarography, different types of currents in polarography, polarography waves, maxima, supporting electrolyte.</li> <li>To understand the concept of polarography, amperometric titration, different types of electrodes used in electro analytical chemistry.</li> <li>To know about a.c polarography, square wave polarography, pulse polarography, chronopotentiometry, chronoamperometry and colometry, voltametry and ion selective electrodes.</li> </ul> |
| <b>INORGANIC SPECIAL<br/>VI(17CHE24GA3)</b> | <ul style="list-style-type: none"> <li>To identify the metal deficiency diseases and treat them with proper therapy and become familiar with carcinogens, tumor growth and role of various metals in anticancer activity.</li> <li>To Discuss role of ligands and their beneficial effects as chelating agents in anti-cancer drugs, Antiviral activity etc.</li> <li>Have knowledge of nuclear medicine as they study about radioiodine -131, technetium – 99m, gallium and indium.</li> </ul>  |
| <b>ORGANIC SPECIAL<br/>IV(17CHE24GC1)</b>   | <ul style="list-style-type: none"> <li>To understand and deal phenomenon of photochemistry.</li> <li>To understand the photochemical reaction of alkenes, carbonyl and aromatic compounds.</li> <li>To apply the Woodward-Hoffmann rules governing the pericyclic reactions.</li> </ul>  |
| <b>ORGANIC SPECIAL<br/>V(17CHE24GC2)</b>    | <ul style="list-style-type: none"> <li>To identify and characterize various classes of natural products (Terpenoids, Alkaloids) by their structures.</li> <li>Knowledge of some of the plants around them and their pharmaceutical importance.</li> <li>Knowledge of bacteria and other life forms from which useful pharmaceuticals are derived.</li> <li>To isolate, purify and characterize simple products that are derived from plants and some animals</li> </ul>  |
| <b>ORGANIC SPECIAL<br/>VI(17CHE24GC3)</b>   | <ul style="list-style-type: none"> <li>To apply different reagents in the organic transformations.</li> <li>To understand molecular rearrangements.</li> <li>To construct efficient, simple mechanistic pathways for the synthesis of a given compound</li> </ul>  |

### **Name Of Program: M.Sc. Physics**

### **Program Outcomes**

- To impart high quality education in Physical Sciences.

- To prepare students to take up challenges as globally competitive physicists/researchers in diverse areas of theoretical and experimental physics.
- To make the students technically and analytically skilled.
- To provide opportunity of pursuing high end research as project work.
- To create a sense of academic and social ethics among the students.

### **Program Specific Outcomes**

- The students are able to realize various applications with proper understanding of linear vector space and matrices, differential equations, special functions, series expansion and integral transforms.
- The students are able to understand the motion of a mechanical system using Lagrange and Hamilton formalisms, concept of central force motion and moving co-ordinate systems and theory of small oscillations.
- The students are able to understand the concepts of Quantum mechanics and capable to solve problems such as hydrogen atom, determination of the energies and wave functions of first and second order.
- The students are able to explain ground state of hydrogen and helium molecules and analyze various transitions and their selection rules.
- The students are able to explain basic physics and application of different types of electronic devices, familiarization with integrated circuit fabrication technology, design of switching circuits and to seek career in advance research.
- The students are able to apply ensemble theory to complex problems, analyze the peculiar gas behavior and explore the applications of Icing Model and different approximations.

### **Course Outcomes**

| <b>Semester I</b>  |   |
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| <b>Mathematical Physics<br/>Paper-I<br/>CODE-18PHY21C1</b> | <ul style="list-style-type: none"> <li>• The students get sufficient exposure /understanding of the linear vector space and applications of matrices to physical problems.</li> <li>• The students are able to solve problems based on differential equations.</li> <li>• The analysis of special functions would equip a student for effective tackling of specific problems.</li> <li>• The students are able to realize various applications with proper understanding of series expansion and integral transforms.</li> </ul> |
| <b>Classical Mechanics<br/>Paper-II<br/>CODE-18PHY21C2</b> | <ul style="list-style-type: none"> <li>• Students are able to describe and understand the motion of a mechanical system using Lagrange and Hamilton formalisms.</li> <li>• Students become able to understand the concepts of central force motion and moving co-ordinate systems.</li> <li>• Student get basic ideas about the theory of small oscillations and use of Poisson's bracket which will lead to understand the concepts of quantum mechanics.</li> </ul>   |
| <b>Quantum Mechanics<br/>Paper-III<br/>CODE-18PHY21C3</b>  | <ul style="list-style-type: none"> <li>• Students are able to understand the concepts of operators in Quantum mechanics.</li> <li>• Students are able to apply Pauli spin matrices to explain angular</li> </ul>  |

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|  | <p>momentum.</p> <ul style="list-style-type: none"> <li>Students are capable to solve problems such as hydrogen atom.</li> <li>Students can determine energies and wave functions of first and second order</li> </ul>  |
| <b>Physics of Electronic Devices</b><br><b>Paper-IV</b><br><b>CODE-18PHY21C4</b> | <ul style="list-style-type: none"> <li>Students are able to explain the basic physics and application of different transistor types.</li> <li>Students get familiarity with integrated circuit fabrication technology and will be able to seek carrier in advance research.</li> <li>Students are able to appreciate the functioning and applications of various optoelectronic and memory devices.</li> <li>Students having familiarization with negative resistance devices and will be in a position to design switching circuits involving these device.</li> </ul> |
| <b>Practical General Physics</b><br><b>Paper-V</b><br><b>CODE-18PHY21CL1</b>     | <ul style="list-style-type: none"> <li>Students are able to determine specific charge of an electron and understand helical path of electron in electromagnetic field.</li> <li>Students are able to calibrate the prism spectrometer.</li> <li>Students are able to calculate band gap energy of semiconductors and will understand its dependence on temperature.</li> <li>Students are able to understand the plateau characteristics of G.M. counter and its applications.</li> </ul>   |
| <b>Practical Electronics</b><br><b>Paper-VI</b><br><b>CODE-18PHY21CL2</b>        | <ul style="list-style-type: none"> <li>The students get hands on experience on experiments and relation to theory.</li> <li>Theoretical results for different networks matched with experiments enable students for complex circuits.</li> <li>The students get equipped for applications based on solid state devices.</li> <li>The students are able to differentiate between analog and digital electronics</li> </ul>   |
| <b>Semester II</b>   |   |
| <b>Statistical Mechanics</b><br><b>Paper-VII</b><br><b>CODE-18PHY22C1</b>        | <ul style="list-style-type: none"> <li>The students are able to appreciate cellular nature of phase space and interface of Statistical Mechanics with Thermodynamics.</li> <li>Knowledge of ensemble theory would result in greater insight into solutions of various complex problems.</li> <li>The students are able to analyze the peculiar gas behavior and are in a position to extend the treatment to complex problems.</li> <li>The students are equipped to explore the applications of Ising Model and to understand different approximations</li> </ul>      |
| <b>Quantum Mechanics-II</b><br><b>Paper-VIII</b><br><b>CODE-18PHY22C2</b>        | <ul style="list-style-type: none"> <li>Students are able to explain ground state of hydrogen and helium molecules.</li> <li>Students get enabled to analyze various transitions and their selection rules.</li> <li>Students are capable to understand 3D collisions.</li> <li>Students are capable to calculate spin states of identical particles</li> </ul>  |

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| <b>Nuclear and Particle Physics</b><br><b>Paper-IX</b><br><b>CODE-18PHY22C3</b> | <ul style="list-style-type: none"> <li>• Students are able to realize the nature of nuclear force.</li> <li>• Students are able to understand the structure of nucleus and are able to find out spin, parity, magnetic moments etc. of different nuclei.</li> <li>• Students are able to understand different nuclear decays and reactions.</li> <li>• Students gain a basic knowledge about Elementary Particles and their interactions.</li> </ul>   |
| <b>Solid State Physics</b><br><b>Paper-X</b><br><b>CODE-18PHY22D1</b>           | <ul style="list-style-type: none"> <li>• The student are able to differentiate different lattice types and explain the concept of reciprocal lattice and crystal diffraction using X-rays.</li> <li>• Explain motion of electron in periodic lattice of solids under different binding conditions, concept of energy band and effect of same on electrical properties.</li> <li>• Lattice vibrations in solids and identity different types of defects in crystals.</li> <li>• Explain various types of magnetic phenomena, superconductivity, physics behind them and their possible applications.</li> </ul> |
| <b>Practical General Physics</b><br><b>Paper-XII</b><br><b>CODE-18PHY22CL1</b>  | <ul style="list-style-type: none"> <li>• Students are able to determine the values of Stefan's constant, Boltzmann constant and <math>e/m</math> ratio of electron and experimental errors in each case.</li> <li>• Students are able to understand magnetization and related aspects in a ferromagnetic material</li> <li>• Students get familiarized with advanced spectroscopy.</li> <li>• Students are able to understand the different harmonics and their amplitudes in a Fourier series experimentally which provide direct connect between theory and experiment</li> </ul>                            |
| <b>Practical Electronics</b><br><b>Paper-XIII</b><br><b>CODE-18PHY22CL2</b>     | <ul style="list-style-type: none"> <li>• Students are able to have functional knowledge about BJT's and FET's.</li> <li>• Development of ability to design and analyze electronic circuits using discrete components.</li> <li>• Students are able to practically verify the frequency response of feedback amplifier single and multistage amplifiers.</li> <li>• Measurement of various analog circuits and comparison of experimental results with theoretical analysis enable the student for problem solving.</li> </ul>  |

| <b>Semester III</b>   |   |
|---|---|
| <b>Atomic and Molecular Physics</b><br><b>Paper –XVI</b><br><b>CODE-19PHY23C1</b>         | <ul style="list-style-type: none"> <li>• The student are expected to be able to explain atomic spectra of one and two electron atoms.</li> <li>• Students are able to explain the change in behaviour of atoms in external applied electric and magnetic field.</li> <li>• Students will understand Diatomic molecules and their rotational, vibrational and rotational vibrational spectra.</li> </ul>   |
| <b>Electrodynamics and Wave Propagation</b><br><b>Paper-XVII</b><br><b>CODE-19PHY23C2</b> | <ul style="list-style-type: none"> <li>• Student are able to formulate and solve electrodynamic problems in relativistic covariant form in four dimensional space.</li> <li>• Student gain the knowledge about electrostatic and magnetic fields produced by static and moving charges in a variety of simple configurations.</li> <li>• Student are able to analyze the basics of theory of transmission lines and waveguides.</li> </ul>  |
| <b>Electronics-I</b><br><b>Paper-XIX</b><br><b>CODE-19PHY23DA2</b>                        | <ul style="list-style-type: none"> <li>• The students are able to express numbers, alphabets, special characters etc. in binary representation, perform mathematical operation in digitally and application of different codes.</li> <li>• Will be able to implement Boolean expression with basic gates and design circuits to achieve desired output.</li> <li>• Design basic building blocks of ICs for different electronics operations such as addition, subtraction, code generation, data register, counting etc.</li> <li>• Develop various building blocks for ICs using MOSFET as MOS devices fabricated on a chip with high packing density and low power intake.</li> </ul> |
| <b>Computational Physics – I</b><br><b>Paper XX</b><br><b>CODE-19PHY23DB1</b>             | <ul style="list-style-type: none"> <li>• Students acquire a vision for use of computer in research prospective.</li> <li>• Students are able to recognize the nature of a specific numerical problem and would develop the acumen for choosing an appropriate numerical technique to find its solution.</li> <li>• Students are able to design FORTRAN programs to solve numerical computationally.</li> </ul>  |
| <b>Practical General Physics</b><br><b>Paper XXII</b><br><b>CODE-19PHY23CL</b>            | <ul style="list-style-type: none"> <li>• Student are able to conduct experiments, as well as to analyze and interpret data.</li> <li>• Students are able to relate experiments with the theoretical aspects of the course.</li> <li>• Students are able to learn working with basic laser systems.</li> </ul>   |
| <b>Practical Electronics</b><br><b>Paper XXIV</b>   | <ul style="list-style-type: none"> <li>• Students are able to demonstrate relation between the input and the corresponding digital output of various digital systems.</li> </ul>  |

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| <b>CODE-19PHY23DL2</b>   | <ul style="list-style-type: none"> <li>• Designing basic building blocks for the ICs for different electronics functions like addition, subtraction, code generation, data register, counting etc. would help in realizing complex circuits.</li> <li>• Students are able to appreciate the effect of different types of modulation on the modulating signal.</li> <li>• Students are able to measure various digital circuit parameters and comparison of experimental outcomes with theoretical results.</li> </ul>   |
| <b>Semester-IV</b>   |   |
| <b>Physics of Laser and Laser Applications<br/>Paper XXVI<br/>CODE-19PHY24C1</b> | <ul style="list-style-type: none"> <li>• Students are able to understand the diversity of laser designs and various applications.</li> <li>• Understand the basic concepts of most of the commercially available lasers.</li> <li>• Student get the knowledge about the basic principles which form the basis of nonlinear optics</li> </ul>  |
| <b>Physics of Nano-materials<br/>Paper XXVII<br/>CODE-19PHY24C2</b>              | <ul style="list-style-type: none"> <li>• Students are able to explain the properties of Nanomaterials/nanostructures.</li> <li>• Students get enabled to analyze the density of states in various nanostructures and related effect on optical properties.</li> <li>• Students get acquainted with important techniques for preparation of Nano materials/nanostructures.</li> <li>• Understanding quantitatively, the experimental results of x-ray diffraction, photoluminescence and Raman spectra of Nano materials opens up avenues of future research.</li> <li>• Students find themselves confident to carry out research work in this important field of Nano science/ Nano-technology</li> </ul> |
| <b>Electronics – II<br/>Paper XXIX<br/>CODE-19PHY24DA2</b>                       | <ul style="list-style-type: none"> <li>• The students are able to understand the fabrication process of solar cells, photodiodes, PMT's etc.</li> <li>• Analyse the functioning of various communication devices such as TV, Radio, mobile phone etc.</li> <li>• Realize the performance of operational amplifier for various mathematical operations such as addition, subtraction, differentiation, integration etc.</li> <li>• Understand circuit analysis and implementation of operational amplifier for various applications like comparator, A/D &amp; D/A convertor, oscillators etc.</li> </ul>  |
| <b>Computational Physics – II<br/>Paper XXX<br/>CODE-19PHY24DB1</b>              | <ul style="list-style-type: none"> <li>• Students are able to understand framework of computer languages.</li> <li>• Students are able to solve numerically various physical problems.</li> <li>• Students gain the necessary basic knowledge of application of MATLAB for problem solving</li> </ul>   |
| <b>Practical General Physics</b>   | <ul style="list-style-type: none"> <li>• Students are able to realize monoatomic and diatomic linear chain</li> </ul>   |

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| <b>Paper XXXII</b><br><b>CODE-19PHY24CL</b>   | <p>of atoms using passive electrical components and able to find the cut off frequency and understand dispersion relation as well as energy gap.</p> <ul style="list-style-type: none"> <li>• Devise and understand various filter circuits and frequency response of push – pull amplifier.</li> <li>• Determine the band gap of semiconductor materials, magnetic susceptibility of magnetic materials and dielectric constants of liquids.</li> <li>• Comprehend fiber optic communication, different mechanism of signal loss and various type of pulse modulation.</li> </ul> |
| <b>Practical Computational Physics</b><br><b>Paper XXXIII</b><br><b>CODE-19PHY24DL1</b> | <ul style="list-style-type: none"> <li>• Students develop understanding for programming concepts.</li> <li>• Students learn the practical implementation of programming languages for carrying numerical calculations.</li> <li>• Students benefit from their enhanced computational skills in context of higher studies in physics or business purposes as well.</li> </ul>   |

### **Name of Program: M.Com. (Masters Of Commerce)**

#### **Program Outcomes**

- Subjects of various specializations equips the students to face the modern-day challenges in commerce and business.
- Enhances the knowledge of students beyond the introductory level which helps in affective development of the students.
- Opens up innumerable career options and opportunities in the field of finance, marketing, human resource management and other related areas.
- Enhances the computer literacy and its applicability in business.

#### **Program Specific Outcomes**

- Pursue research in their chosen area.
- Teach in schools and colleges after qualifying requisite tests.
- Work in corporate sector in different fields of commerce.
- Work in the roles of managers, entrepreneur, and consultant as the course helps learners to possess knowledge and other soft skills and to react aptly when confronted with critical decision making.

#### **Course Outcome**



### Semester I

| Course  | Outcomes   |
|---|--|
| <b>16MCO21C1</b><br><b>Accounting Standards &amp; Financial Reporting</b> | <ul style="list-style-type: none"> <li>• To develop knowledge about various Accounting Standards issued by ICAI &amp; their Compliance and applicability in India.</li> <li>• To learn about The Companies (Ind AS) Rules, 2015.</li> <li>• To familiarize with the procedure of Financial Reporting by Mutual Fund &amp; NBFC.</li> <li>• To understand about contemporary Issues in Accounting like Human Resource Accounting, Corporate Social Reporting, Forensic Accounting &amp; Environmental Reporting.</li> <li>• To give them knowledge about IFRS, FASB &amp; IASB.</li> <li>• To learn about Harmonization in Accounting &amp; Financial Disclosures and Reporting.</li> </ul>   |
| <b>16MCO21C2</b><br><b>Statistical Analysis for Business</b>              | <ul style="list-style-type: none"> <li>• To develop an understanding of the theory of probability, rules of probability and probability distributions.</li> <li>• To comprehend the decision-making process under uncertainty using statistical tools.</li> <li>• To understand concepts of sampling, sampling distributions and estimation.</li> <li>• To understand the meaning and process of hypothesis testing including one-sample and two-sample tests.</li> <li>• To understand the importance and application of non-parametric tests in hypothesis testing.</li> <li>• To apply correlation and regression analysis including both simple and multiple correlation and regression in the real-life case situations.</li> </ul> |
| <b>16MCO21C3</b><br><b>Managerial Economics</b>                           | <ul style="list-style-type: none"> <li>• To make students skilled in critical thinking and decision-making, supported by economics principles and best practices in business.</li> <li>• To design competition strategies, including costing pricing, market environment according to the natures of products and the structures of the markets.</li> </ul>  |
| <b>16MCO21C4</b><br><b>Computer Application in Business</b>               | <ul style="list-style-type: none"> <li>• To understand the basic concept of computer system with ms- excel</li> <li>• To understand the uses of accounting package- tally in Business</li> <li>• To understand the uses of software SPSS in Business</li> </ul>  |
| <b>16MCO21D3</b><br><b>Principles of Management</b>                       | <ul style="list-style-type: none"> <li>• To know the overview of management.</li> <li>• To understand thoughts of various renowned persons in development of management field which will help the student to apply any one of them in their business.</li> <li>• To familiarize with communication, motivation and leadership towards directing.</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>To analyse the process of controlling.</li> </ul> |
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## Semester II

| Course   | Outcomes   |
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| <b>16MCO22C1<br/>Management<br/>Accounting</b>   | <ul style="list-style-type: none"> <li>To identify differences between various forms of accounting—Financial, Managerial and Cost and the role of a Management Accountant.</li> <li>To identify cost according to their associated activities and apply costing techniques for computing cost of products or services.</li> <li>To prepare income statements using variable costing and absorption costing. Make various managerial decisions on the basis of learning about concepts and issues involved therein.</li> <li>To prepare different forms of budgetary statements, identify and control cost at a responsibility centre assigned to a manager, analyse and report performance of the assigned responsibility centre.</li> </ul> |
| <b>16MCO22C2<br/>Investment<br/>Management</b>   | <ul style="list-style-type: none"> <li>To understand meaning, nature and process of investment. Meaning of Risk &amp; Return.</li> <li>To understand Capital Markets – Primary and Secondary.</li> <li>To understand Security Valuation – Equity shares, preference shares, bonds/debentures. Understanding Fundamental Analysis.</li> <li>To understand the concept of Technical Analysis, Efficient Market Hypothesis.</li> </ul>  |
| <b>16MCO22C3<br/>Financial<br/>Management</b>    | <ul style="list-style-type: none"> <li>To advance the understanding of fundamental concepts of finance, financial market and market participants.</li> <li>To provide an in-depth view of the process of financial management of the firm.</li> <li>To enable students to describe how people analyze corporate leverage under different conditions.</li> <li>To demonstrate how risk is assessed.</li> </ul>  |
| <b>16MCO22D3<br/>Organizational<br/>Behavior</b> | <ul style="list-style-type: none"> <li>To learn human behaviour at workplace, factors affecting human behaviour at workplace.</li> <li>To understand group dynamics at workplace, How the different group performance is managed at work place.</li> <li>To understand team building at work place and how team building helps and affects organization.</li> <li>To understand personality/ motivational theories.</li> <li>To understand theories of perception and learning.</li> </ul>   |
| <b>16IMSF1<br/>Entrepreneurship</b>              | <ul style="list-style-type: none"> <li>To know the meaning of Entrepreneur and Entrepreneurship.</li> <li>To understand theories of entrepreneurship.</li> </ul>   |

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| <b>Development</b>                                | <ul style="list-style-type: none"> <li>• To understand the Entrepreneurial behaviour.</li> <li>• To understand entrepreneurial development programmes.</li> </ul>  |
| <b>16IMSO1<br/>Fundamentals of<br/>Management</b> | <ul style="list-style-type: none"> <li>• To learn about management thoughts, approaches of management and concept of planning, organising and staffing.</li> <li>• To learn about motivation and theories of motivation.</li> <li>• To learn about the concept of leadership, leadership styles and theories of leadership.</li> <li>• To learn about the concept of interpersonal and organizational communication.</li> <li>• To understand process, types and barriers of communication.</li> </ul> |

### Semester III

| <b>Course</b>  | <b>Outcomes</b>   |
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| <b>17MCO23C1<br/>Portfolio<br/>Management</b>              | <ul style="list-style-type: none"> <li>• To understand the environment of investment and risk return framework.</li> <li>• To construct, analyse, select and evaluate portfolios along with a deep understanding of Capital market theory and associated models.</li> <li>• To describe and assess perspectives of economic analysis in capital market expectations.</li> <li>• To discuss the relation between economic activity and investor expectations.</li> <li>• To apply portfolio management concepts and techniques to their specific business problems.</li> </ul> |
| <b>17MCO23C2<br/>Corporate Tax</b>                         | <ul style="list-style-type: none"> <li>• To equip the students with the ability to understand &amp; compute Taxable income and Tax Liability of companies.</li> <li>• To learn about the Assessment of Insurance Companies, Charitable Trust, Educational Institution &amp; Political Parties.</li> <li>• To make student understand about the Assessment of Non-residents, Co-operative Society &amp; Discontinued Business.</li> <li>• To familiarize with the concept of Advance Ruling &amp; Double Taxation.</li> </ul>  |
| <b>17MCO23DA3<br/>Management of<br/>Financial Services</b> | <ul style="list-style-type: none"> <li>• To develop knowledge about financial services, banking companies, financial institutions and securitization.</li> <li>• To provide information about credit rating, agencies of credit rating (CRISIL, ICRA, CARE).</li> </ul>   |

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|  | <ul style="list-style-type: none"> <li>• To provide an overview of depository system.</li> <li>• To understand about merchant banking, mutual funds, credit cards, commercial papers and counter trade.</li> </ul>   |
| <b>17MCO23DB2<br/>Service Marketing</b>          | <ul style="list-style-type: none"> <li>• To understand the concept of services, future of services and organization for service.</li> <li>• To learn the different quality models and service design.</li> <li>• To understand the roles of customers and employees at the time-of-service encounter.</li> <li>• To learn how to manage demand and capacity in the case of services.</li> <li>• To understand the role of communication and how to handle the customer complaints and importance of service recovery.</li> </ul> |
| <b>16IMSO2<br/>Fundamentals of<br/>Marketing</b> | <ul style="list-style-type: none"> <li>• To understand the dynamics of marketing in business.</li> <li>• To develop strong conceptual knowledge in the functional area of marketing.</li> <li>• To understand the changing marketing environment.</li> <li>• To develop analytical skills in identification and resolution of problems pertaining to marketing management.</li> </ul>  |

#### Semester IV

| Course   | Outcomes  |
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| <b>17MCO24C1 Cost Accounting Standards &amp; Reporting</b> | <ul style="list-style-type: none"> <li>• To understand and explain the conceptual framework of Cost Accounting.</li> <li>• To know the basic concepts and processes in determination of cost of products and services.</li> <li>• To understand the Cost Accounting Standards (CAS).</li> <li>• To understand classification of cost components to facilitate managerial decision making.</li> </ul>  |
| <b>17MCO24C2 Corporate Tax Planning and Management</b>     | <ul style="list-style-type: none"> <li>• To introduce students with the concept of Tax Evasion, Tax Avoidance, Tax Planning &amp; Tax Management.</li> <li>• To do tax planning in respect of new business, financial management decision, managerial remuneration &amp; foreign income.</li> <li>• To learn about special tax provision in respect of Free Trade zone, Infrastructure development, Backward Areas &amp; Tax Incentive to Exporters.</li> <li>• To equip students with the concept of Tax impact in case of Amalgamation &amp; Demerger.</li> <li>• To compute Advance Payment of Tax.</li> </ul> |
| <b>17MCO24C3 Business Research Methods</b>                 | <ul style="list-style-type: none"> <li>• To understand the concept of Business Research, need and importance thereof.</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>• To understand the concept of Research Design and Sample Design.</li> <li>• To understand the methods of data collection- Primary &amp; Secondary.</li> <li>• To understand the process of Research report making.</li> </ul>  |
| <b>17MCO24DA1<br/>Human Resource Management</b>          | <ul style="list-style-type: none"> <li>• To understand the importance and the functions of human resource management and learn the qualities of human resource manager in an organization and recent techniques in human resource management.</li> <li>• To recognize the role of trade unions in any organization and growth and development of trade unions in India.</li> <li>• To identify the issues in collective bargaining and its significance.</li> <li>• To understand the concept of workers participation in management.</li> <li>• To understand the term morale and the concept of productivity and its significance and relationship between morale and productivity.</li> </ul> |
| <b>17MCO24DA3<br/>Strategic Management</b>               | <ul style="list-style-type: none"> <li>• To understand various perspectives and concepts in the field of Strategic management.</li> <li>• To develop skills for applying the concepts studied to the solution of business problems.</li> <li>• To understand the strategies followed by different companies in the corporate world.</li> <li>• To develop their capacity to think and execute strategically.</li> </ul>  |
| <b>17MCO24DB1<br/>International Business Environment</b> | <ul style="list-style-type: none"> <li>• To make students aware about the international business environment.</li> <li>• To provide basic knowledge about international economic cooperation and agreements.</li> <li>• To make students familiar about international economic institution like IMF, WORLD BANK, UNCTAD, UNIDO, WTO.</li> <li>• To understand international trade and payment system.</li> <li>• To get knowledge about foreign exchange market, exchange rate, types of foreign exchange markets etc.</li> </ul>  |
| <b>17MCO24DB2<br/>Production Management</b>              | <ul style="list-style-type: none"> <li>• To gain knowledge about production management, its objectives, features and importance.</li> <li>• To know about production processes.</li> <li>• To know the importance of plant location and plant layout decision.</li> <li>• To make student familiarize with the basic elements of production planning and controlling.</li> <li>• To make students able to learn about techniques of quality management.</li> <li>• To know the concept of maintenance management.</li> </ul>   |
| <b>17MCO24DC3 Cost Management</b>                        | <ul style="list-style-type: none"> <li>• To learn the concept of cost control and cost reduction.</li> <li>• To understand the activity-based costing system.</li> <li>• To learn the concept of productivity, value chain analysis and target costing.</li> </ul>   |

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|  | <ul style="list-style-type: none"> <li>To know about the concept of Business process outsourcing and reengineering.</li> </ul> |
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## **Name of Program: M.Sc. Mathematics**

### **Program Outcomes:**

- Prepare students for pursuing research or careers in industry in mathematical sciences and allied fields.
- Inculcate critical thinking to carry out scientific investigation objectivity without being biased with preconceived notions.
- Equip the student with skills to analyze problems, formulate an hypothesis.
- Continue to acquire relevant knowledge and skills appropriate to professional activities.

### **Program Specific Outcomes:**

1. Communicate concepts of Mathematics and its applications.
2. Acquire analytical and logical thinking through various mathematical tools and techniques.
3. Investigate real life problems and learn to solve them through formulating mathematical models.
4. Attain in-depth knowledge to pursue higher studies and ability to conduct research work as mathematical professional.

### **Course Outcomes**

#### **Semester- I**

| <b>Course</b>                      | <b>Outcome</b>  |
|------------------------------------|---|
| 1. Abstract Algebra                | <ul style="list-style-type: none"> <li>• Analysis of solvable and Nilpotent group.</li> <li>• Notherian and artinian Modules.</li> <li>• Various type of groups and rings.</li> <li>• Analyze and illustrate examples of different types of series.</li> </ul>                      |
| 2. Mathematical Analysis           | <ul style="list-style-type: none"> <li>• Understand R-S Integral and its Properties.</li> <li>• Lear about Pointwise and Uniform convergence of sequence and series of functions.</li> <li>• Concept of derivation in open subset of <math>\mathbb{R}^n</math>.</li> </ul>          |
| 3. Ordinary Differential equations | <ul style="list-style-type: none"> <li>• Use of differential equations for modelling and solving real life problems.</li> <li>• Various Methods of Approximation to get information about various problems.</li> <li>• Apply differential equations to various problems.</li> </ul> |

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| 4. Complex Analysis        | <ul style="list-style-type: none"> <li>• Concept of complex number.</li> <li>• Represent sum function of power series as an analytical function.</li> <li>• Concept of Residue, Contour Integral.</li> <li>• Understand the concept of complex integration and differentiation.</li> </ul> |
| 5. Mathematical Statistics | <ul style="list-style-type: none"> <li>• Concept of Mathematical probability and its application.</li> <li>• Concept of PMF/ PDF.</li> <li>• Application of discrete and continuous probability distribution along with properties.</li> </ul>   |

### Semester-II

| Course   | Outcome  |
|--|--|
| 1. Theory of Field extension                     | <ul style="list-style-type: none"> <li>• Use properties of field extension.</li> <li>• Concept of automorphism, monomorphism and Galoi's theory.</li> <li>• Solve polynomial equation by radicals.</li> </ul>                                      |
| 2. Measure and Integration Theory                | <ul style="list-style-type: none"> <li>• Shortcomings of R.I. and benefits of L.I.</li> <li>• Fundamental Concept of measure and Lebesgue measure.</li> <li>• Knowledge of differentiation of monotonic functions in definite integral.</li> </ul> |
| 3. Integral Equations and Calculus of Variations | <ul style="list-style-type: none"> <li>• Methods to reduce IVP to various integral equations.</li> <li>• Importance of Green function for solution of BVP.</li> <li>• Categories and solve differential integral equations.</li> </ul>             |
| 4. Partial Differential equations                | <ul style="list-style-type: none"> <li>• Familiar with PDE and their application.</li> <li>• Solve BVP related to Laplace, Heat and Wave equations.</li> <li>• Use Green function to solve PDE.</li> </ul>   |
| 5. Operation Research Technique                  | <ul style="list-style-type: none"> <li>• Identify and develop OR Model.</li> <li>• Understanding of Mathematical tools to solve optimization problems.</li> <li>• Solve LP, Transportation, queuing and inventory problems.</li> </ul>             |
| 6. Computer Fundamentals                         | <ul style="list-style-type: none"> <li>• Fundamental concepts of computers.</li> <li>• Familiar with OS, Networking and Internet.</li> <li>• Understand number system.</li> <li>• Knowledge of logic circuit and Boolean Algebra.</li> </ul>       |
| 7. Environmental Issues                          | <ul style="list-style-type: none"> <li>• Concept of fundamental environment.</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>• Linked socio-environmental processes.</li> </ul> |
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### Semester-III

| Course                                 | Outcome  |
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| 1. Functional Analyses                 | <ul style="list-style-type: none"> <li>• Completeness of NLS.</li> <li>• Concept of bounded LT.</li> <li>• Solvability of Linear equations in Banach space.</li> <li>• Properties of compact operators.</li> </ul>   |
| 2. Elementary Topology                 | <ul style="list-style-type: none"> <li>• Concept of topological space and continuous functions.</li> <li>• Describe homeomorphism and topological invariants.</li> <li>• Establish connectedness and compactness.</li> </ul>   |
| 3. Fluid Dynamics                      | <ul style="list-style-type: none"> <li>• Familiar with Eulerian and Lagrangian methods of fluid motion.</li> <li>• Derive equation of continuity, motion, vorticity, impulsive action.</li> <li>• Concept of complex potential.</li> <li>• Potential of source, sink and doublets in 2-D and 3-D.</li> </ul> |
| 4. Group- A : Discrete Mathematics     | <ul style="list-style-type: none"> <li>• Concept of discrete mathematics and structures.</li> <li>• Express logic sentence in predicates, quantifiers.</li> <li>• Evaluate boolean functions.</li> </ul>   |
| 5. Group- A : Mechanics of Solids      | <ul style="list-style-type: none"> <li>• Basic properties of stress and strain tensor.</li> <li>• Generalized Hooke's law.</li> <li>• Different types of elastic symmetries.</li> </ul>  |
| 6. Group- B : Analytical Number Theory | <ul style="list-style-type: none"> <li>• Algebraic properties of <math>U_n</math> and <math>Q_n</math>.</li> <li>• Arithmetic functions and perfect numbers.</li> <li>• Representation of numbers by 2 or 4 squares</li> </ul>   |
| 7. Group- B : Mathematical Modeling    | <ul style="list-style-type: none"> <li>• Core principles of mathematical modeling.</li> <li>• Importance of PDE in mathematical modeling.</li> <li>• Frame quantitative problems and model them mathematically.</li> </ul>   |
| 8. Disaster Management                 | <ul style="list-style-type: none"> <li>• Understand disasters, mitigation measures.</li> <li>• Role of IT remote sensing, GIS and GPS</li> </ul>   |



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|  | in risk risk reduction. |
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#### Semester IV

| Course                     | Outcome  |
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| 1. IPS and Measure Theory  | <ul style="list-style-type: none"> <li>• understand Hilbert space.</li> <li>• Concept of projections, measures.</li> <li>• Learn Hahn, Jordan, radon- Nikodyn decomposition theorem, L-S Integral.</li> </ul>  |
| 2. Classical Mechanics     | <ul style="list-style-type: none"> <li>• Concepts of momental ellipsoid, equimomental systems.</li> <li>• Understand Ideal constraints and Lagrange equation.</li> <li>• Hamiltonian function, canonical transformation, Poisson and Lagrange brackets.</li> </ul> |
| 3. Viscous Fluid Dynamics  | <ul style="list-style-type: none"> <li>• Different types of vortices and their motion.</li> <li>• Relation between stress and rate off strain.</li> <li>• Equation of motion for different fluid flow.</li> </ul>  |
| 4. Graph Theory            | <ul style="list-style-type: none"> <li>• Understand Graph, Subgraphs, connected and disconnected graphs.</li> <li>• Difference between Hamiltonian and Eulerian graphs.</li> <li>• Apply tree and graph Algorithms to solve problems.</li> </ul>                   |
| 5. Applied Solid Mechanics | <ul style="list-style-type: none"> <li>• Concept of Generalized plane stress.</li> <li>• Concept of torsional rigidity, lines of shearing stress.</li> <li>• Describe Ritz, Galerkin, Kantorovich method to torsional problems.</li> </ul>                         |
| 6. Algebraic Number Theory | <ul style="list-style-type: none"> <li>• Concept of arithmetic of algebraic number fields.</li> <li>• Factorize an algebraic integer into irreducibles.</li> <li>• Understand ramified and unramified extensions.</li> </ul>                                       |
| 7. Stochastic Process      | <ul style="list-style-type: none"> <li>• Concept of Markov chain.</li> <li>• Properties of Poisson process, Birth death process.</li> <li>• Apply stochastic theory for modeling real system.</li> </ul>   |

## **Name Of Program: M.A. (GEOGRAPHY)**

### **PROGRAM OUTCOMES**

The postgraduate degree in geography provide you with the knowledge and skills you need to begin a variety of rewarding careers. Geographers work as urban planners, GIS technicians and analysts, disaster preparedness planners, teachers, environmental scientists, remote sensing analysts, transportation planners, demographers, hydrologists and in a variety of other areas

Students who complete Geography courses will examine the spatial organization of physical features and human activities at a variety of spatial scales from local to global. Students will be able to locate features on the surface of the earth, explain why they are located where they are, and describe how places are similar and/or different. Students will also examine human interactions with the environment and describe how physical and cultural landscapes change through time. Students completing physical geography courses will be able to describe the processes that drive earth's climate, create landforms, and govern the distribution of plants and animals. Students completing human geography will analyze and describe cultural phenomenon such as population, development, agriculture, language, and religion.

- Ability of Problem Analysis: Student will be able to analyses the problems of physical as well as cultural environments of both rural and urban areas. Moreover, they will try to find out the possible measures to solve those problems.
- Conduct Social Survey Project: They will be eligible for conducting social survey project, which is needed for measuring the status of development of a particular group or section of the society.
- Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- Application of modern instruments: Students will be able to learn the application of various modern instruments and by these; they will be able to collect primary data.
- Application of GIS and modern Geographical Map Making Techniques: They will learn how to prepare map based on GIS by using the modern geographical map-making techniques.

### **Program Specific Outcomes**

The M.A.in geography program offers students the opportunity to advance their career aspirations through advanced study in the classroom and in the field. The programme in geography is tailored to meet the students' specific educational, research and professional goals in mind. It focuses on spatial studies, qualitative as well as quantitative, and emphasizes on human-environment relationship.

- Design and conduct independent research in their chosen field in the discipline
- Demonstrate knowledge of concepts, methods, and theories designed to enhance understanding of the natural world and human society.
- Communicate the results and significance of their research in both written and oral form

- Follow established ethical guidelines for research and teaching

## **Course Outcomes**

**After completion of this courses student should be able to:**

| <b>Semester I</b>  |  |
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| Geomorphology<br>Paper Code (16GEO21C1)                    | <ul style="list-style-type: none"> <li>• Develop an idea about geomorphology and different types of fundamental concepts. Explain different types of geomorphic processes like weathering, mass wasting and cycle of erosion.</li> <li>• Understand the processes of erosion, deposition and resulting landforms.</li> <li>• Acquire knowledge about slope forms and processes.</li> </ul> |
| Climatology<br>Paper Code (16GEO21C2)                      | <ul style="list-style-type: none"> <li>• Learn the interaction between the atmosphere and the earth's surface.</li> <li>• Understand the importance of the atmospheric pressure and wind.</li> <li>• Understand how atmospheric moisture works.</li> </ul>   |
| Resource Geography<br>Paper Code (16GEO21C3)               | <ul style="list-style-type: none"> <li>• Develop an idea about resource.</li> <li>• Understand the concept of different types of resources.</li> <li>• Acquire knowledge about different types of power resources.</li> <li>• Explain population - resource relationship and different types of population resources.</li> </ul>   |
| Statistical Methods In Geography<br>Paper Code (16GEO21C4) | <ul style="list-style-type: none"> <li>• Learn the significance of statistics in geography.</li> <li>• Understand the importance of use of data in geography</li> <li>• Know about different types of sampling. Develop an idea about theoretical</li> </ul>   |

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|   | distribution.   |
| Semester II   |   |
| Geography Of World Economy<br>Paper Code (16GEO22C1)        | <ul style="list-style-type: none"> <li>• Students would be able to understand how in an increasingly globalized world, economic activities occur unevenly over geographical space.</li> <li>• Students will be able to understand how the regime of neoliberal policies are generating uneven geography of capitalist development.</li> </ul> |
| Regional Development And Planning Paper<br>Code (16GEO22C2) | <ul style="list-style-type: none"> <li>• Gain knowledge about definition of region, evolution and types of regional planning.</li> <li>• Develop an idea about choice of a region for planning.</li> <li>• Build an idea about theories and models for regional planning.</li> <li>• Know about measuring development indicators.</li> </ul>  |
| Environmental Geography<br>Paper Code (16GEO22C3)           | <ul style="list-style-type: none"> <li>• Gain knowledge about concept, scope of environmental geography and components of environment.</li> <li>• Develop an idea about human-environment relationships.</li> <li>• CO3. Build an idea about ecosystem.</li> <li>• CO4. Know about environmental programmes and policies.</li> </ul>          |
| Urban Geography Paper Code (16GEO22D1)                      | <ul style="list-style-type: none"> <li>• Students can explain the town and cities in India and World perspective.</li> <li>• Gain knowledge about the history of urbanization in the developed and developing countries.</li> <li>• They can understand the functional differences between rural and urban</li> </ul>                         |

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|   | <p>settlements.</p> <ul style="list-style-type: none"> <li>• Students can define the problems of urban area. And try to solve them.</li> <li>• They will know the characteristics of urban settlement.</li> <li>• To be able to identify the urban environmental problem and how to solve those problem.</li> </ul>   |
| Semester III  |   |
| <p>Remote Sensing And GIS</p> <p>Paper Code (17GEO23C1)</p> | <ul style="list-style-type: none"> <li>• They can know about concepts, components, development, platforms and types of remote sensing and GIS.</li> <li>• They understand about Aerial photography and Satellite Remote Sensing.</li> <li>• Know about GIS data structures.</li> <li>• Develop an idea about interpretation and application of remote sensing and GIS.</li> </ul> |
| <p>Geography Of Transport</p> <p>Paper Code (17GEO23C2)</p> | <ul style="list-style-type: none"> <li>• Student would be able to understand about geographic relevance of transportation, various models of global relevance, and modal characteristics of modes.</li> <li>• Students would be able to understand the structural analysis of transport network and development of road transport in Haryana.</li> </ul>                          |
| <p>Oceanography</p> <p>Paper Code (17GEO23D5)</p>           | <ul style="list-style-type: none"> <li>• Students would be able to understand the dynamics of ocean physiography and water movement.</li> <li>• Students would be able to understand the relevance of oceans as a resource in times to come.</li> </ul>   |
| Semester IV   |   |
| <p>Geographical Thought</p> <p>Paper Code (17GEO24C1)</p>   | <ul style="list-style-type: none"> <li>• Gain knowledge about development of geographical thought.</li> <li>• Develop an idea about evolution of geographical thinking and disciplinary trends in Germany, France, Britain, and United States of America.</li> <li>• Build an idea about between</li> </ul>   |

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|  | <p>environmental determinism and possibilism, systematic and regional.</p> <ul style="list-style-type: none"> <li>• Know about the trends of geographical thoughts.</li> </ul>   |
| Research Methodology<br>Paper Code (17GEO24C2)           | <ul style="list-style-type: none"> <li>• Students would be able to formulate research questions, understand advantages and disadvantages of quantitative and qualitative approaches, write a research proposal.</li> </ul>   |
| Water Resource And Management<br>Paper Code (17GEO24DA1) | <ul style="list-style-type: none"> <li>• Students would be able to understand some strategies of water resource management.</li> </ul>   |
| Agricultural Geography<br>Paper Code (17GEO24DB3)        | <ul style="list-style-type: none"> <li>• Students would be able to understand major concepts, factors affecting agricultural land-use, agricultural system of the world and the emerging scenario in agriculture.</li> </ul> |

### **Name Of Program: M.A. Sanskrit**

#### **Program Outcomes**

- संस्कृत ग्रंथों के अध्ययन के माध्यम से प्राचीन भारतीय धर्म, साहित्य और इतिहास का उन्नत ज्ञान
- उन्नत पाठ पढ़ने के माध्यम से संस्कृत भाषा की उन्नत कमान, और पाली में मूल ज्ञान, बौद्ध संकर संस्कृत, और / या वैदिक संस्कृत।
- प्राचीन भारतीय धर्म, साहित्य और इतिहास के व्यापक विषयों के भीतर विशेषज्ञता के एक या एक से अधिक क्षेत्रों में अंतर्दृष्टि।
- सावधानीपूर्वक पढ़ने, विश्लेषण और चर्चा के माध्यम से मौजूदा शोध का गंभीर रूप से आकलन करने की क्षमता।
- संस्कृत, पालि, बौद्ध संकर संस्कृत और / या वैदिक संस्कृत में ग्रंथों के शाब्दिक विश्लेषण का अभ्यास।

#### **Program Specific Outcomes**

- विद्यार्थियों के अंदर शोध कौशल उत्पन्न करना।
- साहित्यिक ग्रंथों के विशेष पहलू को निश्चित करके वर्णन करना सीखते हैं।
- साहित्य संबंधी कृतियों का विश्लेषण करना ताकि उनकी संरचना और अर्थों को समझ कर उचित शब्दावली का प्रयोग करना सीख सकें।

- प्राचीन भारत में कला और विज्ञान की समुन्नत दशा के प्रत्यक्ष प्रमाण स्वरूप देशभर में विद्यमान मूर्ति, चित्र, स्तंभ, मंदिर, स्तूप, विहार, दुर्ग, प्रसाद आदि पुरातत्व संबंधी इतिहास की जानकारी से अवगत कराना।
- धार्मिक, सांस्कृतिक, सामाजिक और राजनीतिक इतिहास की जानकारी संस्कृत वांगमय के माध्यम से प्रदान करना।

#### **Course Outcomes**

| Semester- 1                                |   |
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| वेद-वेदांग - (16SKT21C1)                   | <ul style="list-style-type: none"> <li>• वेद मन्त्रों का अनुवाद</li> <li>• निरुक्त के अध्ययन से वैदिक शब्दों का निर्वचन</li> <li>• वैदिक व्याकरण का परिचयात्मक अध्ययन।</li> </ul>   |
| संस्कृत व्याकरण – (16SKT21C2)              | <ul style="list-style-type: none"> <li>• संस्कृत भाषा के परिचयात्मक स्वरूप का ज्ञान यथा - संज्ञा, संधि एवं स्त्री-प्रत्यय प्रकरण।</li> <li>• संस्कृत भाषा के अध्ययन के लिए लघुसिद्धान्तकौमुदी के अनुसार शब्द रूपों की सिद्धि का ज्ञान।</li> </ul>   |
| भारतीय दर्शन -सांख्य एवं न्याय (16SKT21C3) | <ul style="list-style-type: none"> <li>• ईश्वरकृष्णकृत सांख्यकारिका में वर्णित प्रमाण, प्रकृति, पुरुष, सृष्टि प्रक्रिया तथा कैवल्य आदि का ज्ञान।</li> <li>• केशवमिश्रकृत तर्कभाषा के द्वारा पदार्थ, कारण, प्रमाण, प्रत्यक्ष, अनुमान उपमान शब्द आदि का ज्ञान।</li> </ul>   |
| पद्य साहित्य 16SKT21C4(प्रथम सेमेस्टर)     | <ul style="list-style-type: none"> <li>• विद्यार्थी मेघदूत के माध्यम से मानसून के बारे में जानते हैं।</li> <li>• विद्यार्थी बादल और हवा का प्राकृतिक दृश्य महसूस करते हैं</li> <li>• विद्यार्थी प्राचीन नदियों का ज्ञान प्राप्त करते हैं, एवं उनको आधुनिकता के आईने में भी देख सकते हैं।</li> <li>• विद्यार्थी प्राचीन भारत के देव गिरी पर्वत और अलका नगरी के बारे में जानकारी प्राप्त करते हैं।</li> </ul> |
| भाषा विज्ञान – (16SKT21C5)                 | <ul style="list-style-type: none"> <li>• भाषा की उत्पत्ति, विकास और विशेषताओं का</li> </ul>   |

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|                                       | <p>ज्ञान तथा भाषाविज्ञान का ज्ञान।</p> <ul style="list-style-type: none"> <li>• ध्वनि विज्ञान एवं ध्वनि के उच्चारण-अवयवों का ज्ञान।</li> <li>• वाक्य तथा वाक्य के भेद आदि का ज्ञान</li> </ul>   |
| Semester- 2                           |   |
| ब्राह्मण एवं उपनिषद्- (16SKT22C1)     | <ul style="list-style-type: none"> <li>• ब्राह्मण ग्रन्थों में वर्णित आख्यानो के अध्ययन के आधार पर नैतिक मूल्यों का ज्ञान</li> <li>• कठ, मुण्डक तथा तैत्तिरीयोपनिषद् के आधार पर आध्यात्मिक ज्ञान ।</li> </ul>   |
| संस्कृत व्याकरण – (16SKT21C2)         | <ul style="list-style-type: none"> <li>• संस्कृत भाषा के परिचयात्मक स्वरूप का ज्ञान यथा - संज्ञा, संधि एवं स्त्री-प्रत्यय प्रकरण ।</li> <li>• संस्कृत भाषा के अध्ययन के लिए लघुसिद्धान्तकौमुदी के अनुसार शब्द रूपों की सिद्धि का ज्ञान।</li> </ul>  |
| वेदान्त एवं मीमांसा - (16SKT22C2)     | <ul style="list-style-type: none"> <li>• वेदान्त एवं मीमांसा के सिद्धान्तों का ज्ञान</li> <li>• मीमांसा दर्शन के प्रकरण ग्रन्थ अर्थसंग्रह के आधार पर-</li> <li>• वेद क्या है? धर्म क्या है? पांच प्रकार के वेद वाक्यों- विधि, मन्त्र, नामधेय, निषेध और अर्थवाद का ज्ञान।</li> <li>• वेदान्त दर्शन के प्रकरण ग्रन्थ वेदान्तसार के आधार पर अनुबन्ध चतुष्टय, अज्ञान, समाधि तथा जीवनमुक्त आदि का ज्ञान</li> </ul> |
| नाट्य साहित्य 16SKT22C4(द्वितीय सत्र) | <ul style="list-style-type: none"> <li>• वेणी संहार के माध्यम से पंच संधि का बोध कराना।</li> <li>• महाभारत के युद्ध क्षेत्र से परिचित कराना।</li> <li>• कौरव सभा में द्रौपदी का अपमान, द्रौपदी के द्वारा अपनी वेणी को कौरवों से बदला लेने तक खोलना, भीम के द्वारा द्रौपदी के अपमान का बदला लेने की सौगंध खाना इन सभी संदर्भों से परिचित कराना।</li> <li>• नाटक विधा से छात्रों को परिचित कराना।</li> </ul>    |



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|  | <ul style="list-style-type: none"> <li>• मृच्छकटिकम् के माध्यम से महाकवि शुद्रक की काव्य शैली से परिचित कराना।</li> </ul>   |
| अनुवाद एवं निबंध 16SKT22C5(द्वितीय सत्र) | <ul style="list-style-type: none"> <li>• विद्यार्थियों को रूप एवं धातु का बोध कराना।</li> <li>• कारक एवं कारक विभक्तिओं का बोध कराना।</li> <li>• निबंध लेखन द्वारा व्याकरणिक अशुद्धियों को सुधारना।</li> <li>• शब्दकोश में वृद्धि करना।</li> <li>• सोचने की क्षमता का विस्तार करना।</li> </ul>  |
| Semester- 3                              |   |
| संस्कृति एवं धर्मशास्त्र - (17SKT23C1)   | <ul style="list-style-type: none"> <li>• मनुस्मृति, अर्थशास्त्र तथा याज्ञवल्क्यस्मृति की सहायता से धर्मशास्त्र की परम्परा का ज्ञान</li> <li>• मनुस्मृति के अध्ययन से सृष्टि की उत्पत्ति तथा विभिन्न स्तरों पर सृष्टि प्रक्रिया का ज्ञान</li> <li>• अर्थशास्त्र से विद्यासमुद्देश, मन्त्रियों तथा गुप्तचर आदि की नियुक्ति विषयक का ज्ञान</li> <li>• याज्ञवल्क्यस्मृति के आधार पर व्यवहार तथा सम्पत्ति के विभाजन का ज्ञान</li> </ul>  |
| काव्यप्रकाश एवं साहित्य- (17SKT23C2)     | <ul style="list-style-type: none"> <li>• विद्यार्थियों को काव्य का विस्तृत रूप से अध्ययन कराना।</li> <li>• छात्रों को काव्य लक्षण, काव्य प्रयोजन, काव्य भेद, शब्दार्थ स्वरूप भेद, तात्पर्य अर्थ एवं अभिहितान्यवाद एवं अन्विता अभिधानवाद, अभिधा व्यापार, संकेत ग्रह आदि का बोध कराना।</li> <li>• असंलक्ष्य रस आदि ध्वनि, रस स्वरूप, उत्पत्तिवाद , अनुमति वाद, भुक्तिवाद एवं अभिव्यक्ति वाद ,रस की अलौकिकता , श्रृंगार आदि नव रसों का स्वरूप, स्थायिभाव, रसाभास एवं भावाभास ,ध्वनि के अन्य भेद, मम्मटीय ध्वनि भेदों की गणना में प्राप्त त्रुटि एवं ध्वनि भेदों की सही संख्या का ज्ञान कराना।</li> <li>• गुणीभूतव्यंग्य के भेद, व्यंजना की अपरिहार्यता, विभिन्न ध्वनि भेदों में व्यंजनों की अनिवार्यता, मीमांसक मतों का निराकरण</li> </ul> |

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|                                       | <p>एवं व्यंजना-साधन में अन्य विमतियों का निराकरण ,वेदांती , वैयाकरण एवं न्यायिक (महिमभट्ट )के मत का खंडन, चित्रकाव्य-निरूपण। इन सभी महत्वपूर्ण विषयों का ज्ञान कराना।</p>   |
| लौकिक संस्कृत का इतिहास- (17SKT24CC3) | <ul style="list-style-type: none"> <li>संस्कृत साहित्य के विविध महाकाव्यों, नाटकों तथा कवियों एवं लेखकों का परिचयात्मक अध्ययन।</li> </ul>   |
| नाट्यशास्त्र - (17SKT23CC2)           | <ul style="list-style-type: none"> <li>भरतमुनिकृत नाट्यशास्त्र के आधार पर नाट्य, नाट्य मण्डप के प्रकार आदि नाट्यशास्त्रीय परम्परा विषयक तथ्यों का ज्ञान</li> <li>धनंजय कृत दशरूपक के आधार पर 10 रूपकों तथा नाट्य के पारिभाषिक शब्दों का ज्ञान।</li> </ul>                                 |
| नाटक- (17SKT23CC3)                    | <ul style="list-style-type: none"> <li>नाटक विधा से छात्रों को परिचित कराना।</li> <li>कथा साहित्य से अवगत कराना।</li> <li>तात्कालिक सामाजिक, राजनीतिक एवं आर्थिक व्यवस्था से परिचित कराना।</li> <li>नाटक एवं कथा साहित्य के माध्यम से विद्यार्थियों को शोध की ओर अग्रसर करना.</li> </ul>  |
| Semester- 4                           |   |
| संस्कृत शास्त्र परम्परा - (17SKT24C1) | <ul style="list-style-type: none"> <li>संस्कृत शास्त्रों की आयुर्वेद, ज्योतिष, व्याकरण तथा साहित्य से सम्बन्धित आचार्यों तथा उनके ग्रन्थों के द्वारा उनकी परम्पराओं का ज्ञान।</li> </ul>  |
| पालि एवं प्राकृत (17SKT24CC2)         | <ul style="list-style-type: none"> <li>पालि एवं प्राकृत व्याकरण का ज्ञान</li> <li>पालि और प्राकृत के अध्यायों के अध्ययन के द्वारा पालि एवं प्राकृत भाषा का ज्ञान।</li> </ul>  |
| काव्यशास्त्र - (17SKT24CC1)           | <ul style="list-style-type: none"> <li>आनन्दवर्धनकृत ध्वनिसिद्धान्त तथा संस्कृत साहित्य के अन्य महत्वपूर्ण सिद्धान्तों का ज्ञान</li> <li>कुन्तककृत वक्रोक्ति जीवित- परिभाषिक शब्द वक्रोक्ति तथा इससे सम्बन्धित सिद्धान्तों का ज्ञान</li> <li>राजशेखर कृत काव्यमीमांसा काव्य की</li> </ul> |

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|                                | उत्पत्ति आदि के अतिरिक्त भाष्य, वार्तिक आदि पारिभाषिक शब्दों के परिचयात्मक स्वरूप का ज्ञान *वामनकृत काव्यालंकारसूत्र-रीति विषयक सिद्धान्तों का ज्ञान।  |
| संस्कृत महाकाव्य- (17SKT24CC2) | <ul style="list-style-type: none"> <li>• रघुवंशम काव्य के द्वारा छात्रों को राजा रघु से लेकर संपूर्ण सूर्यवंश के बारे में जानकारी प्रदान कराना।</li> <li>• महाकवि कालिदास की सर्वश्रेष्ठ रचना रघुवंशम के द्वारा इस वंश में जन्म लेने वाले राजाओं की विशेषताओं का बोध कराना।</li> <li>• छात्रों को गौ सेवा के महत्व को बताना।</li> <li>• चित्रात्मक शैली से अवगत कराना।</li> <li>• किरातार्जुनीयम् के माध्यम से कवि भारवी के काव्य सौष्ठव को समझाना।</li> </ul> |
| संस्कृत गद्य (17SKT24CC3)      | <ul style="list-style-type: none"> <li>• हर्षचरितम्, दशकुमारचरितम् और कुमुदिनीचन्द्र आदि ग्रन्थों के अध्ययन द्वारा संस्कृत गद्य-साहित्य का ज्ञान।</li> <li>• साथ ही इन ग्रन्थों के यौगिक शब्दों का ज्ञान।</li> </ul>   |

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