COURSE OUTCOMES GOVERNMENT PG COLLEGE FOR WOMEN

(2023-2024)

B.A. (Pass Course) English (Compulsory)

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| **Semester –I** |
| **Course Code: EN-01**  **Title: Literature and Language 1** |
| 1. Acquainted with elementary phonology. 2. Students get a better understanding of the genres of Literature i.e., Prose. 3. Students develop a comprehensive understanding of vocabulary in a better manner. 4. Basic grammar prescribed in a sequential pattern enables the students for its usage. 5. Students are able to locate literary texts within historical, political and cultural contexts. 6. Enables students to develop a finer aesthetic sense. |
| **Semester –II** |
| **Course code- EN-02**  **Title: Literature and Language II** |
| 1. Familiarity with story as an effective and interesting genre of Literature with a better understanding of its elements. 2. Development of a critical perspective to read Literary works of the period. 3. Ability to situate literary texts within historical and cultural contexts. 4. Enables students to develop an eye and an ear for appreciating Literatures. |
| **Semester –III** |
| **Course code- EN-03**  **Title: Fragrances** |
| 1. Familiarity with the prominent poets and poetry. 2. Introduction to related Literary terms. 3. Learning of mechanics of writing of English Language. 4. Better communication skills- both spoken and written. |
| **Semester –IV** |
| **Course code- EN-04**  **Title: Centre Stage** |
| 1. Understanding of different forms of drama: One Act Play 2. Understanding of technical aspects of drama 3. Primary skills to appreciate drama stylistically and contextually |
| **Semester –V** |
| **Course code- EN-05**  **Title: Kanthapura: A Novel by Raja Rao** |
| 1. A better idea of Indian Literature. 2. Introduction to Novel as an Effective and Communicative form of Literature. |

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| 1. Learning of Literary and Prosodic features of Prose. 2. Ability to appreciate novel as a Literary production stylistically and contextually. |
| **Semester –VI** |
| **Course code- EN-06**  **Title: The Merchant of Venice: A Play by William Shakespeare** |
| 1. Knowledge of elements of Drama as a literary form. 2. Acquisition of English language used in the professional world. 3. Enhances communicative skills – both general and academic. 4. Functional and advanced grammar prescribed in the syllabus avails the chance for students to solve complex issues related to language usage. |

B.Com. (Pass Course)

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| **Semester –I** |
| **Course Code: 1.01**  **Title: Financial Accounting-I** |
| 1. Apply quantitative skills to help analyse and solve business problems and to take advantage of business opportunities. 2. Demonstrate an appropriate mastery of the knowledge, skills and tools of financial accounting principles and managerial accounting principles. 3. Demonstrate an appropriate mastery of the knowledge, skills and tools of cost accounting. |
| **Course code- 1.04**  **Title: Business Management –I** |
| 1. Demonstrates comprehensive knowledge and understanding of various areas of management. 2. Familiarize students with the basic concepts and principles of management. 3. Exhibit knowledge and skill required to administer the affairs of the management. |
| **Course code- 1.05**  **Title: Business Communication Skills** |
| 1. To correlate concepts and processes of managerial communication. 2. Identify the gap between current level of communication skills and the expected industry standards. 3. To enhance overall competency of students. 4. Develop effective communication skills required for managing a business aspect like email, letter writing, Reports writing etc. |
| **Semester –II** |
| **Course code- 2.01**  **Title: Financial Accounting -II** |
| 1. Understand the process and preparation of financial statements for Sole Proprietorship and Company and Departmental Business Organizations. 2. Students will be able to analyse communication problems effectively. 3. Show proficiency in basic accounting concepts, conventions and understanding of the |

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| accounting process.  **4.** Students will be able develop an attitude to focus on financial statement users, their information needs. |
| **Course code- 2.04**  **Title: Business Management –II** |
| 1. Develop the knowledge of business and management principles. 2. Learn effective communication skills. 3. Learn critical thinking and problem-solving skills. 4. Able to analyse the different financial and non-financial incentive methods. |
| **Course code- 2.05**  **Title: Business Environment** |
| 1. Students will go through the meaning and various components of business environment and learn the techniques to analyse the business environment. 2. They will be able to explain certain economic problems of growth like unemployment, regional imbalance etc. 3. They will understand the role of government and key policies like monetary, fiscal, industrial policies etc. |
| **Semester –III** |
| **Course code- 3.01**  **Title: Corporate Accounting-I** |
| 1. Increase the practical knowledge. 2. Deep knowledge of Accountancy as like Profit Prior. 3. Knowledge of check the accounts of other company. 4. Accounting deep knowledge is help to employment. |
| **Course code- 3.02**  **Title: Business Statistics-I** |
| 1. Knowledge about mathematical and positional averages. 2. Able to make difference between primary data and secondary data sources. 3. Learning of correlation and regression. 4. Understand the concept of dispersion, kurtosis and skewness. |
| **Course code- 3.03**  **Title: Business Regulatory Framework-I** |
| 1. Can learn the conditions of Indian Partnership Act and Dissolution of Firm. 2. Can use negotiable instrument in practical life. 3. Critically evaluate conditions and warranties of sales of goods act. 4. Aware about rights and importance of Right to information Act. |
| **Course code- 3.04**  **Title: Corporate Law-I** |
| 1. To give insight on Memorandum of Association, Article of Association, and Prospectus. 2. Describe the concept of joint stock companies. 3. To regulate investors, employees, stakeholders etc. |
| **Course code- 3.05**  **Title: Human Resource Management** |

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| 1. Knowledge of Human importance in Company. 2. Knowledge of Active Assets and Passive Assets. 3. Knowledge of Practical Aspect, Social Aspect and Emotional Aspect. 4. Help in employment In Human Resource Department. |
| **Course code- 3.06**  **Title: Fundamental of Insurance** |
| 1. To provide the thorough knowledge and applicability of insurance. 2. How different types of insurance works? 3. To provide knowledge that how they can protect themselves from risk. 4. To provide knowledge that how they can secure their future financially. |
| **Semester –IV** |
| **Course code- 4.01**  **Title: Corporate Accounting-II** |
| 1. It includes Accounts of Holding Company, Banking Company accounts. 2. It also describes the process of liquidation which is included in the company accounts. 3. This subject also provides the knowledge of amalgamation of the company. 4. It also helps students to give practical knowledge of accounts. |
| **Course code- 4.02**  **Title: Business Statistics-II** |
| 1. Help to correlate between two aspects. 2. Knowledge of Index Practically. 3. Knowledge of how to arrange data in tabulation form. 4. To provide the knowledge of applicability of statistics in various fields. |
| **Course code- 4.03**  **Title: Business Regulatory Framework-II** |
| 1. Help to understand Contract and their parties. 2. How to use RTI Act. 3. Knowledge of Negotiable Act. 4. Knowledge of Sales Act. |
| **Course code- 4.04**  **Title: Corporate Law-II** |
| 1. To provide the knowledge of different typed of company working around the world. 2. How a company established. 3. To provide the knowledge of fundamental documents of company. 4. To provide the knowledge of different type of charges on assets. |
| **Course code- 4.05**  **Title: Marketing Management** |
| 1. Enables students to understand the concept of marketing and the recent innovations in marketing. 2. Helps identify the marketing dynamics. 3. Helps in formulating marketing strategies and its practical application of market orientation. 4. To study consumer behaviour. |
| **Course code- 4.06** |

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| **Title: Secretarial Practices** |
| 1. To make the students learn meaning, functions duties, powers and position of Secretary. 2. To know about Promotion of Company and Secretary. 3. To understand about company meetings. 4. To help the students understand about Motion and Resolutions, Voting and Proxy. |
| **Semester –V** |
| **Course code- 5.01**  **Title: Taxation Law -I** |
| 1. To make the students understand the basic concepts, definitions and Important terms related to Taxation Law. 2. To make the students understand the concept of residential status and scope of total income for an assesses with different kinds of residential status. 3. To make students understand the various heads of Income. Various heads namely income from salaries, house property, business/ profession, capital gains and income from other sources. 4. To help the students to understand the various deductions from 80 C to 80 U. |
| **Course code- 5.02**  **Title: Cost Accounting-I** |
| 1. To make aware about cost structure and cost elements. 2. To understand various techniques and methods of cost accounting. 3. To understand various aspects of material control & wastage. 4. To understand various aspects of labour cost control. 5. To understand classification of overheads & methods of absorption. 6. To understand the features of a cost-sheet & determining tender price. |
| **Course code- 5.03**  **Title: Accounting for Management** |
| 1. To make the students understand the meaning, nature and scope of Management Accounting. 2. To make the students understand about Management accounting vs. financial accounting vs. Cost accounting. And to know about different tools and techniques of management accounting. 3. To know about Cash flow Statement and Financial planning. |
| **Course code- 5.04**  **Title: Financial Market Operations** |
| 1. Students will learn about the Indian financial system, various financial institutions, financial services and innovative financial instruments. 2. They will understand the working of Indian money market and capital market. 3. They will learn about SEBI, merchant banking and various credit rating agencies. 4. Students will get familiar with various mutual funds available in the market and will come to know about various development banks. |
| **Course code- 5.05**  **Title: Entrepreneurship and Small-Scale Business** |
| 1. Demonstrate the ability to apply knowledge of key leadership concepts in an integrated manner. 2. Demonstrate the ability to identify and evaluate business opportunities and trends. 3. Demonstrate the ability to identify potential start-up models and resources given trends |

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| and opportunities.  **4.** Demonstrate the ability to apply knowledge of business concepts and functions in an integrated manner. |
| **Course code- 5.06**  **Title: International Business Environment** |
| 1. Help to understand of international culture. 2. knowledge how to enter other nation markets. 3. Improve the skills of other nation culture. 4. Help in employment in Marketing field. 5. Knowledge about international trade theories and balance of payment. 6. Knowledge about foreign exchange market. 7. Understand the concepts of international business environment. |
| **Semester –VI** |
| **Course code- 6.01**  **Title: Taxation Law-II** |
| 1. To make the students determine the net total taxable income of an assessed after reducing the deductions from the gross total income. 2. To help the students understand the computation of income and tax for a partnership firm. 3. To make the students understand the provisions of Deduction of Tax at source. 4. To help the students understand the powers of Income Tax Authorities and about Appeals & Revision. 5. To make the students understand how to fill and file an Income Tax Return electronically. |
| **Course code- 6.02**  **Title: Cost Accounting –II** |
| 1. To make aware about cost structure and cost elements 2. To understand various aspects of process costing along with joint and by-product 3. To understand the concept of contract costing along with job and batch costing. 4. To understand the concept of budget and its controlling tools. 5. To understand the concept of standard and marginal costing |
| **Course code- 6.03**  **Title: Financial Management** |
| 1. To develop the knowledge of business finance and financial management decision. 2. To learn different techniques and problem skills. 3. To study effective written and oral communication. 4. To teach a sense of responsibility and a capacity for financial management |
| **Course code- 6.04**  **Title: Auditing** |
| 1. Understand the concept of auditing, its nature and importance. 2. Students will be able to differentiate between different aspects of auditing like internal audit, internal check and internal control. 3. Learn the appointment procedure, power, duties and liabilities of an auditor. 4. Understand the concept of routine checking and vouching. 5. Students will be able to differentiate between investigation and auditing. |
| **Course code- 6.05**  **Title: Goods and Services Tax & Customs Law** |

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| 1. Help to understand Single tax calculation. 2. Help to understand impact of all type of business. 3. Help to computation of tax. 4. Knowledge of SGST AND CGST. |
| **Course code- 6.06**  **Title: International Marketing** |
| 1. Students should be able – To learn model building process used for solving marketing problems. 2. Choose various analytical techniques for improving marketing decisions 3. Learn to bring innovation in the marketing strategy and achieve marketing plan objective. 4. Learn to apply marketing strategy under different market conditions and business challenges. |

B.A. Economics (Pass)

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| **Semester –I** |
| **Course Code: EC-01**  **Title: MICRO ECONOMICS** |
| It will result in equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-  profit maximizing framework. |
| **Semester –II** |
| **Course code- EC-02**  **Title: MICRO ECONOMICS** |
| It will result in understanding the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty |
| **Semester –III** |
| **Course code- EC-03**  **Title: MACRO ECONOMICS** |
| To make student aware of the basic theoretical framework underlying the field of macroeconomics. |
| **Semester –IV** |
| **Course code- EC-04**  **Title: MACRO ECONOMICS** |
| It helps students to study the aggregates and to provide overall idea about national economic policies and its implications. |
| **Semester –V** |
| **Course code- EC-05** |

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| **Title: ECONOMICS OF GROWTH AND DEVELOPMENT** |
| The course is helpful to develop a systematic exposition of models that try to explain composition, direction and consequences of international trade. Ability to appreciate novel as a literary production stylistically and contextually. |
| **Semester –VI** |
| **Course code- EC-06**  **Title: ECONOMICS OF GROWTH AND DEVELOPMENT** |
| The course aids in the development of a systematic presentation of models that attempt to explain the composition, direction, and effects of international trade. Ability to evaluate a novel as a literary work in terms of style and context. |

BA Pass Course, Arts (Painting)

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| **Semester –I** |
| **Course Code: AR01**  **Title: History and Appreciation of Art** |
| 1. A basic understanding of different works of art of diverse fields such as sculptures, paintings, murals, installations etc. in the form of traditional and non-traditional art forms belonging to a vast stretched time phase of art history, beginning with the Indus valley to early dynasties as Maurya and Shunga to the golden period of art under the patronage of the Guptas, temple architecture and sculptures under the Chalukya, Rashtrakutas, Pallavas, and bronze sculpture casting by the Cholas. Knowledge gained by the syllabus stretching over such a vast perspective provides the basic knowledge of development of art through different phases influenced by the social surroundings and chief patronage. It provides significant understanding of traditions of art spurring throughout history and its relevance in social, community based and cultural performance. 2. A basic introduction to sculpture with a clear knowledge of its round and relief form as seals etc. helps the students relate better with the sculptures created through history from the ancient civilizations to early dynasties, later patronages, the modern art context to the contemporary scenario. A detail study of the different mudras, asanas and bhangras leads to a clear knowledge of the details of sculpture making and its technicalities. |
| **Course code-**  **Title: Still Life (Practical)** |
| Practicing the practical subject matter of still life strengthens the knowledge of the basics of composition through the applied rendering of elements and principles of art. It also enriches the student’s skill at exploring the basic technique of drawing and painting. These  skills can further be applied to any creative subject in art as it is laying the foundation of skill enhancement and practical knowledge of the subject Art. Practicing still life is also a building block in formulating the fundamental concepts and technical issues concerning art subject matter such as the process of building up tones, colour, textures of the objects leading to a unified picture of creativity. Still life is integral to drawing and painting as it  strengthens the natural level of drawing ability. |
| **Semester –II** |
| **Course code-** |

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| **Title: (Practical) Design** |
| The creativity and skill involved in making a design is an outcome of visual thinking and creative problem solving at the initial step of gaining technical and theoretical based knowledge of the subject Art. The basic concept of design is to introduce and strengthen the knowledge of elements and principles of art that are pertinent in the creation of an effective composition. To be equipped with the knowledge of design elements and principles correlate with all art disciplines including commercial arts, painting, sculpture etc. understanding the concept of design also leads to an effective communication of ideas and concepts along with creative application of colour theory and colour usage |
| **Course code-**  **Title: (Practical) Landscape** |
| On the spot landscape painting is a creative medium of engaging the sense of perception in creating a language of art concerning primarily with imagination. Landscape composition introduces the basic concept of space necessary in creating art as the foreground, middle ground and the back ground. Painting a landscape by choosing the frame on the spot increases observation that results in creating landscapes using imagination. Landscape painting is one of the most popular forms of creating art, largely appreciated by viewers,  thus, landscape painting is an interactive channel of communication between the artists and the society where art is represented as creativity. |
| **Semester –III** |
| **Course code- AR03**  **Title: (Practical) Landscape** |
| 1. The beautiful fresco paintings on the cave walls of Ajanta and Ellora are one of the finest examples of composition, artistic skills, colour application and art works created under patronage of different dynasties. 2. This enriches the student’s capabilities in gaining proficiency in using different methods and mediums for creating art. 3. Understanding this exemplary fresco and developing an insight for miniature paintings belonging to the Rajasthani, Pahari and the Mughal school the students’ visual perception will be enhanced leading to a better visual language for communication. 4. Concepts as murals, perspective, fore shortening shading, Indian concept of primary colour etc. reinforce the basic concepts of art to understand such concepts in the historical perspective. |
| **Course Code:**  **Title: Paper- II Landscape (Practical)** |
| 1. On the spot landscape painting is a creative medium of engaging the sense of perception in creating a language of art concerning primarily with imagination. Landscape composition introduces the basic concept of space necessary in creating art as the foreground, middle ground and the back ground. Painting a landscape by choosing the frame on the spot increases observation that results in creating landscapes using imagination. 2. Landscape painting is one of the most popular forms of creating art, largely appreciated by viewers, thus landscape painting is an interactive channel of communication between the artists and the society where art is represented as creativity. |
| **Semester –IV** |

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| **Course code-**  **Title: Paper- III (Practical) Poster** |
| 1. Students will gain knowledge of the basics of commercial art as poster making is one of the most popular methods of visual communication for spreading message to a vast number of people. 2. It allows the students to visualize the concept through creative expressions in a language suitable to the contemporary world. Practically being involved in poster making facilitates the students with extensive research, creative thinking and artistic presentation of concepts and ideas. |
| **Course code-**  **Title: Paper- IV (Practical) Composition** |
| 1. Students develop their skill and the ability to think creatively by creating compositions on the basis of elements and principles of art. Composition as a practical subject also encourages the student to cultivate critical thinking and philosophical approach in formulating ideas into forms and layouts. 2. The students will be able to respond better in analysing, interpreting and evaluating the content and form of the composition. Composition as a subject directs to the overall development of the student assessed in terms of imagination, observational skills, social sensitivity, response and the visual expression of inner thought. |
| **Semester –V** |
| **Course code- AR05**  **Title: Paper- I History and Appreciation of Art** |
| 1. With a thorough knowledge of western art history, the students will be able to differentiate between the different art historical periods. Beginning with the renaissance art period, an age of innovation and excellence in the field of art to the modern period in western art. 2. This course aims at enriching the students’ ability in accurately identifying the true meaning of works of art and the significance of its characteristics. the process of examining and understanding works of art referring to different art periods will sharpen the analytical and critical thinking skills of the students. 3. A broader perspective of comprehending with developments in western art history can be seen in term of stylistic advancements, political benefaction, cultural influence and indigenous skill of the artist as an individual. 4. Appreciation of art enlightens the students’ observation skills with conceptual knowledge of the principality of aesthetics and beauty in art. It helps the students to build a connection between the physical appearance of an artwork and its philosophical content. |
| **Course code- AR05**  **Title: Paper- II Composition (Practical)** |
| 1. Imagination is the key factor in creating a composition along with skill and technical assistance. 2. Creating landscapes from memory enhance the students’ ability to critically analyse the characteristics of light and shade, colours, structural division of space and judgement of proportion. It also heightens the perceptive and observational skills of the students as they   present in their art through the creative language of self-expression of what they visually and aesthetically observe through the inner eye. |

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| **Semester –VI** |
| **Course code-**  **Title: Paper- III (Practical) Poster** |
| 1. Students will gain knowledge of the basics of commercial art as poster making is one of the most popular methods of visual communication for spreading message to a vast number of people. 2. It allows the students to visualize the concept through creative expressions in a language suitable to the contemporary world. 3. Practically being involved in poster making facilitates the students with extensive research, creative thinking and artistic presentation of concepts and ideas. |
| **Course code-**  **Title: Paper- IV (Practical) Life Drawing** |
| 1. The main outcome of this course is to build the basic perceptual skills of students with fine knowledge of different mediums and clarity in understanding concepts as proportion. 2. It is the basic introduction of anatomical and muscular structure of the human body. 3. Life drawings with skeletal studies enable the students to create human forms from memory, developing the skill for sketching. 4. Study of the complexity of human body through elements and principles of art develops the expressive content of professionalism in a student. 5. Thus, students will eventually be able to express simplification, exaggeration and distortion in form and content. |

BA Pass Course: Applied Art

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| **Semester –I** |
| **Course Code: AA01**  **Title: Paper- I Applied art (Theory)** |
| 1. A basic understanding of Design theory involves an understanding of the tangible elements including form, space, proportion, colour, scale, texture, structure (grid), composition, line, shape and volume and how to arrange them to achieve balance, rhythm, pattern, hierarchy, emphasis, and unity. 2. A basic understanding of Essential of design and theory of design that give clear knowledge of significance of design that helps the students in their academics. 3. A basic understanding of the elements of design are the fundamental aspects of any visual design which include shape, colour, space, form, line, value, and texture. 4. Graphic designers use the elements of design to create an image that can convey a certain mood, draw the eye in a certain direction, or evoke a number of feelings. 5. While the elements of design form the basics of any image, designers also lean on the principles of design, which are a set of practices of working with the elements of design that make a composition look pleasing to the eye. |
| **Course code-**  **Title: Paper- II Still Life (Practical)** |
| 1. Practicing the practical subject matter of still life strengthens the knowledge of the basics of composition through the applied rendering of elements and principles of art. 2. It also enriches the student’s skill at exploring the basic technique of drawing and |

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| painting. These skills can further be applied to any creative subject in art as it is laying the foundation of skill enhancement and practical knowledge of the subject Art.   1. Practicing still life is also a building block in formulating the fundamental concepts and technical issues concerning art subject matter such as the process of building up tones, colour, textures of the objects leading to a unified picture of creativity. 2. Still life is integral to drawing and painting as it strengthens the natural level of drawing ability. |
| **Semester –II** |
| **Course code-**  **Title: Paper- III Graphics Design (Practical)** |
| 1. The creativity and skill involved in making a Graphics design is an outcome of visual thinking and creative problem solving at the initial step of gaining technical and theoretical based knowledge of Logo. 2. The basic concept of design is to introduce and strengthen the knowledge of elements and principles of art that are pertinent in the creation of an effective logo. 3. To be equipped with the knowledge of design elements and principles correlates with all art disciplines including understanding the concept of design also leads to an effective communication of ideas and concepts along with creative application of colour theory and colour usage. |
| **Course code-**  **Title: Paper- IV Layout (Practical)** |
| 1. It is a creative medium of making the design in creating a language of art concerning primarily with imagination. layout refers to the way something is designed or arranged. 2. Layout is important because as a society we are becoming more and more reliant on visual cues in communication. 3. layout defines the structure for a user interface in your app, such as in an activity. 4. All elements in the layout are built using a hierarchy of View and View Group objects. 5. A View usually draws something the user can see and interact with. |
| **Semester –III** |
| **Course code- AA03**  **Title: Paper- I Applied Art** |
| A basic understanding of art, it is also called (to distinguish it from other art forms) visual art, a visual object or experience consciously created through an expression of skill or imagination. The term art encompasses diverse media such as painting, sculpture, printmaking, drawing, decorative arts, photography, and installation.   1. It gains our knowledge about Commercial art is the art of creative services, referring to art created for commercial purposes, primarily advertising. Commercial art uses a variety of platforms (magazines, websites, apps, television, etc.). 2. A basic understanding Elements of art are stylistic features that are included within an art piece to help the artist communicate. The seven most common elements include line, shape, texture, form, space, colour and value, with the additions of mark making, and materialist. 3. Brief us the art world, perspective is about your point of view, only this time, it's more spatial. When you learn to draw perspective as a beginner, you learn it's importance. By using the different mediums used in art are oil paints, water colours, acrylic paints,   graphite pencils, charcoal and pastels (oil and chalk ...) student will enjoy to Decorate |

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| with posters with photo art.  **5.** We have a large selection of black and white photography, modern photo prints and classic photo art. |
| **Course Code:**  **Title: Paper- II ILLUSTRATION (Practical)** |
| 1. Student gain knowledge about the Illustration which is a visualization or a depiction made by an artist, such as a drawing, sketch, painting, photograph, or other kind of image of things seen, remembered or imagined, using a pen and Brush with Colour black and white. 2. Illustration is a decoration, interpretation or visual explanation of a text, concept or process. We learn this by making a class room, Canteen, Storey and college Campus. 3. Illustrations mean an artist interprets a text, or even social meaning, turning it into a drawing or painting. This often means incorporating personality. 4. It is a visualization or a depiction made by an artist, such as a drawing, sketch, painting, photograph, or other kind of image of things seen, remembered or imagined, using a graphical representation. |
| **Semester –IV** |
| **Course code-**  **Title: Paper- III Layout** |
| 1. Students develop their skill and the ability to think creatively by creating Layout on the basis of elements and principles of art. 2. Layout as a practical subject also encourages the student to cultivate critical thinking and philosophical approach in formulating ideas into forms and layouts. 3. The students will be able to respond better in analysing, interpreting and evaluating the content and form the Layout. 4. Layout is important because as a society we are becoming more and more reliant on visual cues in communication. 5. layout defines the structure for a user interface in your app, such as in an activity. 6. All elements in the layout are built using a hierarchy of View and View Group objects. A View usually draws something the user can see and interact with. |
| **Course code-**  **Title: Paper- IV (Practical) Poster** |
| 1. Students will gain knowledge of the basics of commercial art as poster making is one of the most popular methods of visual communication for spreading message to a vast number of people. 2. It allows the students to visualize the concept through creative expressions in a language suitable to the contemporary world. Practically being involved in poster making facilitates the students with extensive research, creative thinking and artistic presentation of concepts and ideas. |
| **Semester –V** |
| **Course code- AA05**  **Title: Paper- I Applied Art** |
| **1.** We gain knowledge about the Commercial Art which is the art of creative services, referring to art created for commercial purposes, primarily advertising. Commercial art |

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| uses a variety of platforms (magazines, websites, apps, television, etc.) for viewers with the intent of promoting sale and interest of products, services, and ideas.   1. The skilful combing of images and text become the core of the course – Commercial- Arts. It is mainly a practical class, where through demonstrations and Internet you will learn to solve visual problems. From sketching, Logo’s Posters, Layouts, Illustrations, to understanding how to apply basic design concepts, is the structure of this course. Typography, image, colour space a form will be integrated as the term progresses. By actually working, taking risks, experimenting making mistakes and creating with hands and computers, much is to be learned. 2. Learned the different techniques and terms like Hoarding design is the process of applying graphics to temporary hoarding structures. Hoarding panels can often feature designs and graphics which can be offered as marketing space for external businesses or a marketing tool for project owners. Typography, the design, or selection, of letter forms to be organized into words and sentences to be disposed in blocks of type as printing upon a page and Slide' commonly refers to a 35 mm photographic positive image comprising chromosome dyes on a transparent base held inside a plastic or card mount 3. Understand the Screen printing is a printing technique where a mesh is used to transfer ink onto a substrate, except in areas made impermeable to the ink by a blocking stencil and Block printing is the process of printing patterns by means of engraved wooden blocks. It is the earliest, simplest and slowest of all methods of textile printing. Block printing by hand is a slow process. It is, however, capable of yielding highly artistic   results, some of which are unobtainable by any other method. |
| **Course code-**  **Title: Paper- II Layout and Lettering** |
| 1. Students develop their skill and the ability to think creatively by creating Layout on the basis of elements and principles of art. Layout as a practical subject also encourages the student to cultivate critical thinking and philosophical approach in formulating ideas into forms and layouts. The students will be able to respond better in analysing, interpreting and evaluating the content and form the Layout. 2. Layout is important because as a society we are becoming more and more reliant on visual cues in communication. Layout defines the structure for a user interface in your app, such as in an activity. 3. All elements in the layout are built using a hierarchy of View and View Group objects. A View usually draws something the user can see and interact with. 4. Students Develop their Skills and gain their knowledge About lettering that covers the art of drawing letters, instead of simply writing them. Lettering is considered an art form, where each letter in a phrase or quote acts as an illustration. 5. Each letter is created with attention to detail and has a unique role within a composition. Lettering is created as an image, with letters that are meant to be used in a unique configuration. Lettering words do not always translate into alphabets that can later be used in a typeface, since they are created with a specific word in mind. Lettering includes that used for purposes of blueprints and comic books, as well as decorative lettering such as sign painting and custom graphics. |
| **Semester –VI** |

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| **Course code-**  **Title: Paper- III (Practical) Poster** |
| 1. Students will gain knowledge of the basics of commercial art as poster making is one of the most popular methods of visual communication for spreading message to a vast number of people. 2. It allows the students to visualize the concept through creative expressions in a language suitable to the contemporary world. 3. Practically being involved in poster making facilitates the students with extensive research, creative thinking and artistic presentation of concepts and ideas. |
| **Course code-**  **Title: Paper- IV (Practical) Photography** |
| 1. Students will gain knowledge of the basics of photography as an art form arose from advancements in technology which allowed photographers to manipulate their images to fit their artistic expression. 2. Photographers are able to drastically change the outcome of an image through choosing various cameras, lenses, film, and the framing and timing of a shot. 3. Photography is the capturing of an instant out of our life and altering life by holding it still. 4. Photography has an important role in everyone’s life, sometimes it’s a good memory or some time it’s a sad memory, whatever it is we love to take photos in our life. |

B.A. Pass Course in Music

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| **Semester –I** |
| **Course Code: MV01**  **Topics:** Sangeet, Swar, Saptak, Nada, Shruti, Raga, Tala, That, Vadi, Samvadi, Anuvadi, Vivadi, Khayal, Tarana, Khali, Alankar, Notation of Raga (Bhupali, Kafi), Margi and Desi Sangeet , Pt. V.N Bhathkhande, Vishnu Digambar Palushkar, Teen taal and Keharva |
| 1. Understanding basic concepts of Music through all these concepts. 2. Understanding importance of swaras in alankar. 3. Understanding notation in different ragas. 4. Understanding difference between margi and desi sangeet. 5. Contributory service in field of music. 6. Understanding Teentaal and Keharva Taal. |
| **Semester –II** |
| **Course code- MV02**  **Topics:** Notation of Raga (Yaman, Bhairav), Pt. Omkar Nath Thakur, Narayan Rao Vyas Abdul Karim Khan, anpura and Harmonium, Ancient and present Alap gaan, Qualities and limitations of singers, Taal (Ektaal, Dedra), Varna, Vaggyekar, Parmel Praveshak Raga Yaman, Bhairva, Music in National integration |
| 1. Understanding notation in different ragas. 2. Contributory service in field of music. 3. Understanding basic knowledge of Tampura and Harmonium. 4. Understanding basic knowledge of Ancient and present Alap gaan. 5. Understanding basic qualities and limitations of singers. |

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| 1. Understanding Ektaal and Dedra Talas. 2. Understanding Varna, Vaggyekar, Parmel Praveshak Raga. 3. Understanding Raga description. 4. Understanding the role of music in National integration. |
| **Semester –III** |
| **Course code- MV03**  **Topics:** Notations (Behag, Bhageshwari, Aheer Bhairav), Avirbhav-Tirobhav, Alpatva and Bahutava, Jaties of Ragas, Gaayanshaili, Talas, Ragas, Ustad Bade Gulam Ali Khan Ustad Fayyaz Khan , Pt. Krishna Rao Shanker |
| 1. Understanding notation of Dhrut Khayal in different ragas. 2. Understanding Avirbhav-Tirobhav, Alpatva Bahutava, Jaties of Ragas. 3. Basic knowledge of different gaayanshaili (Dhrupad, Dhamar, Khayal, Tappa Thumri) 4. Basic concept of different talas (Ada- Chautal, Ektaal). 5. Understanding concept of different ragas (Behag, Bageshwari, Aheer Bhairav.). 6. Contributory service in field of Music. |
| **Semester –IV** |
| **Course code- MV04**  **Topics:** Notations (Malkauns, Shudh Sarang, Des), Gaayanshaili, Talas, Ragas, Pt. DV Paluskar, Pt. Bheem Sain Joshi, Ustaad Amir Khan, Gram-Murchana, Tanpura and Sahayak Naad, Music in Ramayan and Mahabharata time. |
| 1. Understanding notation of Dhrut Khayal in different ragas. 2. Basic knowledge of different gaayanshaili (Trivat, Chapurang, Geet, Bhajan, Folk song, Gazal). 3. Basic concept of different talas (Tivra, Tilvara, Rupak). 4. Understanding concept of different ragas (Malkauns, Shudh Sarang, des). 5. Contributory service in field of Music. 6. Basic concept of gram murchana. 7. Knowledge of Tanpura and sahayak naad. 8. Understanding type and situation of Music in Ramayana and Mahabharta time. |
| **Semester –V** |
| **Course code- MV05**  **Title:** Notations (Tilakkamod, Bhairvi, Miyan Ki Malhar), Gharanas, Ragas, Talas, Tabla Folk music of Punjab, Vinayak Rao Patvardhan, Ustad Chand Khan |
| 1. Understanding notation of Vilambi and Dhrut Khayal in different ragas. 2. Detailed study of Gwalior, Agra, Kirana. 3. Detailed study of different Ragas (Tilakkamod, Miyan ki Malhar, Bhairavi) 4. Detailed study of different talas (Jhaptaal, Sooltaal) 5. Understanding discription of Tabla. 6. Understanding Folk music of Punjab. 7. Contributory service in field of Music. |
| **Semester –VI** |
| **Course code- MV06**  **Topics:** Notations (Bheempalasi, Patdeep, Madhuvanti), Gharanas, Ragas, Talas, Folk music of Haryana, Notation System, Lal Mani Mishra, Acharya KCD Bhraspati, Kumar Gandharva |
| 1. Understanding notation of Vilambi and Dhrut Khayal in different ragas. 2. Detailed study of Jaipur, Delhi, Patiala Gharana. 3. Detailed study of different Ragas (Patdeep, Bheempalasi, Madhuvanti) |

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| 1. Detailed study of different talas (Dhamar, Deepchandi) 2. Understanding Folk music of Haryana 3. Understanding origin, development, merit, demerit of Notation system. 4. Contributory service in field of Music. |

B.A. (Pass) with Geography

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| **Semester –I** |
| **Course Code: GE-01**  **Title: Geography of India** |
| 1. Knowledge about Location, relief structure and drainage, Climate, Soils, Natural vegetation, Natural disaster of India, 2. Population :distribution and density Migration , human settlement types 3. Land resources, Irrigation, Cropping pattern and green revolution, 4. Problems of Indian agriculture, Energy and mineral resources, 5. Industries –iron and steel, cotton textiles, Modes of transport and communication |
| **Semester –II** |
| **Course code- GE02**  **Title: Physical Geography** |
| 1. Nature and scope of physical geography 2. Earth movements , Earthquakes, volcanoes 3. weathering, mass movements, wind process, cycle of erosion, water glacier, sea waves. |
| **Semester –III** |
| **Course code- GE03**  **Title: Physical Geography** |
| 1. Introduction about weather and climate origin, 2. composition and structure of atmosphere, 3. Air pressure, planetary winds, humidity, 4. Air mass and climatic classification global warming. 5. Ocean resources, configuration of ocean floor. |
| **Semester –IV** |
| **Course code- GE04**  **Title: Human Geography** |
| 1. Nature and scope of human Geography, Human races and Tribes of India ,The concept of man -environment relationship. 2. Human adaptation to environment, Resources :meaning ,nature and components, Classification of resources, Distribution and utilization of resources, Distribution and utilization of abiotic resources, Conservation of resources. 3. Population of the world , Concept of population, Overpopulation And under population, Theories of population, Rural settlement. 4. Origin and growth of town, Classification and function of towns, Population pressure, and resource use environmental optimum degradation, Sustainable development. |
| **Semester –V** |

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| **Course code- GE05**  **Title: Economic Geography** |
| 1. Nature and scope of economic geography, Classification of economic activities and their impact on environment, Secondary and tertiary activities. 2. World natural resources: types bases and classification Resources conservation and utilization of resources. 3. Spatial distribution of food ,commercial and plantation crops, Classification of mineral resources (ferrous and non-ferrous). 4. Classification of industries: world distribution and production, Industrial region Transport   :land, water air, Communication, Trade. |
| **Semester –VI** |
| **Course code- GE06**  **Title: Remote Sensing and G.I.S.** |
| 1. Introduction of Aerial photograph Advantage of Aerial photograph and their types, Element of Aerial photograph. 2. Introduction to remote sensing electromagnetic spectrum Stages in remote sensing, Types of satellites, Types of imageries, Application of imageries. 3. Introduction of GIS, Definition, purpose, Advantage of G.I.S. software and hardware requirement, Application of G.I.S. 4. Measure of central tendency, Mean, Median, Mode, Measure of dispersion. |

B.A. (Pass) with Psychology

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| **Semester –I** |
| **Course Code: PY-01**  **Title: Introduction to Psychology and Practical** |
| 1. To introduce students to the basic concepts of the field of psychology with an emphasis on applications of psychology in everyday life. 2. Appreciation of the scope and the field of psychology. 3. Developing familiarity with basic concepts related to some foundational themes of study in psychology such as learning, memory, perception, and thinking. 4. Ability to administer, analyse and interpret results from various psychological tools. 5. Expand knowledge of various assessment procedures. 6. Knowledge of the ways to interpret the scores obtained through experiments and learn to discover the difference in between experimental and non- experimental set-up. |
| **Semester –II** |
| **Course code- PY02**  **Title: Experimental Psychology and Practical** |
| 1. Review the concepts of psychology through the mediums of the experiments. 2. Understand the rationale, strengths and limitations of the experimental method of gaining knowledge about mental and behavioural processes. 3. Learn how to design experimental and non-experimental studies. |

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| 1. To enhance the scientific temper of the students by providing them with the experimental knowledge of psychology. 2. Ability to administer, analyse and interpret results from various psychological tools. 3. Expand knowledge of various assessment procedures. 4. Knowledge of the ways to interpret the scores obtained through experiments and learn to discover the difference in between experimental and non- experimental set-up. |
| **Semester –III** |
| **Course code- PY03**  **Title: Social Psychology and Practical** |
| 1. Develop insight and analyse the contribution of social psychologists to the understanding of human society. 2. Evaluate effective strategies in socialization, group processes (both inter and intra-group) and helping behaviour. 3. Ability to register the progression of theories in major areas in Social Psychology. 4. Interpret attitude formation and various methods to be used to change the attitude. 5. Understand aspects related to social psychology. 6. Ability to administer, analyse and interpret results from various psychological tools. 7. Expand knowledge of various assessment procedures. 8. Knowledge of the ways to interpret the scores obtained through experiments and learn to discover the difference in between experimental and non- experimental set-up. |
| **Semester –IV** |
| **Course code- PY04**  **Title: Developmental Psychology and Practical** |
| 1. Demonstrating an ability to understand and distinguish major theoretical perspectives and methodological approaches in human development. 2. Developing an ability to identify the milestones in diverse domains of human development across life stages. 3. Understanding the contributions of socio-cultural context toward shaping human development. 4. Ability to administer, analyse and interpret results from various psychological tools. 5. Expand knowledge of various assessment procedures. 6. Knowledge of the ways to interpret the scores obtained through experiments and learn to discover the difference in between experimental and non- experimental set-up. |
| **Semester –V** |
| **Course code- PY05**  **Title: Psychopathology and Practical** |
| 1. Identify different types of anxiety and mood disorders, their clinical picture and management. 2. Analyse Impact of socio-occupational & personal functioning. 3. Formulate the case with the help of psychological testing. 4. Plan Therapeutic programs for management based on goals of therapy. 5. The students will understand signs and symptoms of psychopathology. 6. They will be able to assess the symptoms, nature, causes and dysfunctions associated with these disorders. 7. Ability to administer, analyse and interpret results from various psychological tools. 8. Expand knowledge of various assessment procedures. 9. Knowledge of the ways to interpret the scores obtained through experiments and learn to discover the difference in between experimental and non- experimental set-up. |

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| **Semester –VI** |
| **Course code- PY06**  **Title: Applied Psychology and Practical** |
| 1. Understand how psychological theories and principles relate to everyday life and apply knowledge of Behaviour modification and life skill training to solve everyday problems. 2. Students are exposed to the elementary scientific research methods, techniques, counselling skills, ethics and evaluating skills of Psychology. 3. Apply psychological principles to understand personal as well as social issues and problems. 4. Ability to administer, analyse and interpret results from various psychological tools. 5. Expand knowledge of various assessment procedures. 6. Knowledge of the ways to interpret the scores obtained through experiments and learn to discover the difference in between experimental and non- experimental set-up. |

B.A. Pass Course Political Science

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| **Semester –I** |
| **Course Code: PS-01**  **Title: Indian Constitution** |
| 1. Understand the foundations and bases of Indian government including the Constitution of India. 2. Understand the working of the various governmental institutions including executive, legislature, and judiciary. 3. Evaluate the various aspects of Indian political system including political parties, public opinion, elections, caste and communalism. |
| **Semester –II** |
| **Course code- PS02**  **Title: Indian Politics** |
| 1. Comprehend the historical dimensions of Political culture, the values and legacies and social dimensions of Indian Political System. 2. Have in depth knowledge of changing nature of party system in India; the role played by parties and pressure groups in shaping the politics of India. 3. Understand the politics of economic development in India; Elections; and the role of media in shaping public opinion. 4. Analyse critically the impact of social factors on Indian Political System, challenges of Nation building and integration and develop insights on issues related to weaker sections of society |
| **Semester –III** |
| **Course code- PS03**  **Title: Indian Political Thinker-I** |
| 1. Have in depth knowledge and understanding of Indian Political thinkers like Swami Dayanand Saraswathi . 2. Develop a comparative understanding of various social reformers. |

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| 1. Identify and describe the key ideas of Rajaram Mohan Ray and Vivekananda. 2. Develop an understanding of the ideas of Modern Indian Political thinkers. |
| **Semester –IV** |
| **Course code- PS04**  **Title: Indian Political Thinker-II** |
| 1. Have in depth knowledge and understanding of Indian Political thinkers like Mahatma Gandhi. 2. Develop a comparative understanding of various social reformers. 3. Identify and describe the key ideas of Nehru and Dr. Ambedkar. 4. Develop an understanding of the ideas of Modern Indian Political thinkers. |
| **Semester –V** |
| **Course code- PS05**  **Title: International Organization-I** |
| 1. Have broad understanding of dynamic nature of international Organization, its key concepts and types of international system. 2. Acquire comprehensive knowledge of mainstream theories that have shaped and influenced international politics and assess the relevance of these theories in present context. 3. Identify the concepts and core features of different theories emerged in post-cold war world. 4. Acquire cognitive and analytical skills to apply theories to the question of international politics in practice. |
| **Semester –VI** |
| **Course code- PS06**  **Title: International Organization-II** |
| 1. Comprehend the historical evolution of International Organization and draw a comparison between the League and the UN. 2. Develop an understanding of the structure and function of organs of the United Nations. 3. Understand the changing nature and democratization of United Nations in post-cold war era. 4. Understand the role of United Nations in settlement of disputes and international cooperation. |

B.Sc. Mathematics /B.A. Mathematic

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| **Semester –I** |
| **Course Code: BM111, BSM 111**  **Title: Algebra** |
| 1. Solve system of linear equation. 2. Solve Diophantine equation. 3. Find roots of polynomial over rational. 4. Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, using rank. 5. Find eigenvalues and corresponding eigenvectors for a square matrix. |

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| **Course code- BM-112, BSM-112**  **Title: Calculus** |
| 1. Verify the value of the limit of a function at a point using the definition of the limit. 2. Sketch curves in a plane using its mathematical properties in the different coordinate systems of reference. 3. Apply derivatives in Optimization, Social sciences, Physics and Life sciences etc. 4. Compute area of surfaces of revolution and the volume of solids by integrating over cross- sectional areas. |
| **Course code- BM-113, BSM-113**  **Title: Solid Geometry** |
| 1. Students will be able to find the tangents and normal to the conic and tracing of the conics. 2. Students will learn the characteristics of spheres, cones, cylinders, central conicoid and paraboloids. |
| **Semester –II** |
| **Course code- BM-121, BSM-121**  **Title: Number Theory and Trigonometry** |
| 1. Find quotients and remainders from integer division. 2. Apply Euclid’s algorithm and backwards substitution. 3. Understand the definitions of congruence, residue classes and least residues add and subtract integers, modulo n, multiply integers and calculate powers, modulo n. 4. Determine multiplicative inverses, modulo n and use to solve linear congruence. 5. Learn the theory of quadratic residues. 6. Find the solutions of circular, hyperbolic, inverse circular and inverse hyperbolic functions. |
| **Course code- BM-122, BSM-122**  **Title: Ordinary Differential Equation** |
| 1. Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases. 2. Student will be able to find the complete solution of a nonhomogeneous differential equation as a linear combination of the complementary function and a particular solution. 3. Student will have a working knowledge of basic application problems described by second order linear differential equations with constant coefficients. |
| **Course code- BM-123, BSM- 123**  **Title: Vector Calculus** |
| 1. Understand the applications of vector algebra to geometry and mechanics. 2. Learn about the directional derivatives, gradient, divergence, curl, Laplacian operators, orthogonal curvilinear coordinates and vector integration. 3. Evaluate line integrals, surface area and surface integrals. |
| **Semester –III** |
| **Course code- BM-231, BSM- 231**  **Title: Advanced Calculus** |
| 1. Understand differentiation and fundamental theorem in differentiation and various rules. 2. represent the functions geometrical and solve problems on Mean value Theorem and Rolls |

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| theorem.  **3.** Find extreme values of function. |
| **Course code- BM-232, BSM-232**  **Title: Partial Differential Equations** |
| 1. Familiar with the modelling assumptions and derivations that lead to PDEs. 2. Recognize the major classification of PDEs and the qualitative differences between the classes of equations. 3. Solve linear PDEs using classical solution methods. |
| **Course code- BM-233, BSM-233**  **Title: Statics** |
| 1. Determine the resultant of a system of forces. 2. Draw complete and correct free-body diagrams and write the appropriate equilibrium equations from the free-body diagram. 3. Determine the support reactions on a structure. 4. Determine the connection forces in trusses and in general frame structures. 5. Determine the internal reactions in a beam. |
| **Semester –IV** |
| **Course code- BM-241, BSM-241**  **Title: Sequences and Series** |
| 1. Determine if an infinite sequence is bounded, monotonic or oscillating. 2. Determine the sequence whether it is convergent or divergent by using the appropriate tests. 3. Find the sequence of partial sum for an infinite series. 4. Determine if an infinite series is convergent or divergent by selecting the appropriate tests such as D’ Alembert ratio test, Raabe’s test, Bertrand test, Gauss test, Cauchy condensation test, Cauchy nth root test, etc. |
| **Course code- BM-243, BSM-243**  **Title: Programming in C and Numerical Method** |
| 1. Obtain numerical solution of algebraic and transcendental equations. 2. Find numerical solutions of system of linear equations and check the accuracy of the solution. 3. Learn the basic components of computer. 4. Understand and apply the programming concepts of C language which is important for mathematical investigation and problem solving. |
| **Semester –V** |
| **Course code- BM-351, BSM-351**  **Title: Real Analysis** |
| 1. Understand some properties of Riemann integrals functions and the applications of the fundamental theorems of integration. 2. Study improper integration using Riemann integration. 3. Understand the concepts of metric spaces and their properties, like openness, closedness, completeness, Bolzano-Weierstrass property, compactness and connectedness. 4. Learn about the continuity of a function defined on metric spaces |
| **Course code- BM-352, BSM-352**  **Title: Groups and Rings** |

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| 1. Understand the fundamental concepts of groups, subgroups, cyclic groups etc. 2. Extend group structure to finite permutation groups (Caley Hamilton Theorem). 3. Understand the concepts of ring, subring and integral domain. 4. Study quotient ring, field. 5. Learn about ideal, irreducibility of polynomials. |
| **Course code- BM-353, BSM-353**  **Title: Numerical Analysis** |
| 1. Understand to apply interpolation and extrapolation numerical methods. 2. Learn to apply appropriate numerical methods to determine approximate solution of ODE and system of linear equations. 3. Compare different methods in numerical analysis accuracy and efficiency of solution. 4. Learn about linear equations, matrix algebra, vector space, eigenvalues and eigenvectors, orthogonality and diagonalization. 5. Solve initial and boundary value problems in differential equations using different numerical methods. |
| **Semester –VI** |
| **Course code- BM-361, BSM-361**  **Title: Real and Complex Analysis** |
| 1. Study Jacobians, Beta and Gamma functions, their properties, double and triple integrals, change of order of integration in double integrals. 2. Learn Fourier’s series, properties of Fourier coefficients, Parseval’s identity for Fourier series. 3. Understand the stereography projection of complex plane on the Riemann sphere. 4. Under the significance of differentiability and analyticity of complex functions leading to the Cauchy Riemann equations. 5. Study the mappings by elementary functions such as translation, rotation etc., conformal mappings. 6. Learn about Mobius transformations, fixed points, cross ratio, critical mappings. |
| **Course code- BM-362, BSM-362**  **Title: Linear Algebra** |
| 1. Understand the concepts of vector spaces, subspaces, basis, dimension, quotient spaces and their properties. 2. Relate matrices and linear transformation, compute eigen values and eigen vectors of linear transformations. 3. Learn properties of inner product spaces and determine orthogonality in inner product spaces. 4. Study importance of adjoint of a linear transformation and its canonical form. |
| **Course code- BM-353, BSM-363 Dynamics**  **Title: Dynamics** |
| 1. Identify the basic relations between distance, time, velocity, and acceleration. 2. Understand the concept of velocity and acceleration along radial and transverse axes. 3. Learn about Newton and Kepler law of motions. |

B.A History (Pass Course)

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| **Semester –I** |
| **Course Code: HR01**  **Title: History of India (from earliest times C. 1200 A.D.)** |
| 1. Students of History can achieve knowledge regarding geographical background and sources with approaches to Ancient Indian History. 2. They learn about pre and proto history of our country, emergence and growth of earlier dynasties like Maurya, Gupta and the empires in Post Maurya period as well as in Post Gupta period. History students will acquire knowledge about historiography of Ancient India. 3. The socio, political, economic, religious and cultural features of early medieval India are vividly depicted in this paper |
| **Semester –II** |
| **Course code- HR02**  **Title: History of India (1200AD to 1707AD)** |
| 1. The history of Delhi Sultanate is thoroughly described in this portion. 2. Students can gather knowledge regarding Sultanate administration, socio-cultural – political situation of Delhi under Sultanate. The Mughal is a topic of controversy and attraction for their purse-proud to history lovers. 3. Students will learn from this paper how did Mughal polity, economy, trade, commerce,   society, culture become so famous in medieval period. They also learn the history of downfall of the Mughals, the end of an era. |
| **Semester –III** |
| **Course code- HR03**  **Title: History of India (1707AD to 1947AD)** |
| 1. To understanding the mid – eighteenth century this paper is considered as mandatory. Students will gather knowledge about expansion and consolidation of British Empire, economic changes, land revenue settlements, commercialization of agriculture, de- industrialization, spread of western education, Indian Renaissance, several peasants and tribal movements. To understanding Modern India this paper is essential. 2. Students from history stream will get knowledge about the penetration, expansion and consolidation of British Rule in India. Indian awakening, cultural changes and socio- religious reforms movements, Revolt of 1857 are described in this paper. 3. Students of History acquire knowledge about communal politics, partition in India in between 1947-1950. |
| **Semester –IV** |
| **Course code- HR04**  **Title: HISTORY of HARYANA (From Earliest Times to 1947 AD)** |
| 1. Students understand the theme of regional history is explored through study of Haryana from stone age to independence of India. 2. Critically analyses the rise of various cultures are explored in the region of Haryana. 3. Critically evaluate the efforts of the people of this region in the foreign invasions. 4. Critically analyses the rise of state formation and new power in the region of Haryana. |

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| **5.** Explain and analyses the Turkish Invasion and its impact on Haryana. |
| **Semester –V** |
| **Course code- HR05**  **Title: History of Ancient and Medieval World** |
| 1. Critically evaluate the development of human society and various cultures from stone age to iron age, worldwide phenomenon. 2. Critically discuss major cultural structures, events and then shaping the world context. 3. Evaluate and analyze different sources (particularly archaeological) in overseas. 4. Critically evaluate the concept the decline of different civilizations. 5. Critically evaluate the concept of relation of civilizations to each other. 6. Critically evaluate the various developments in feudal Europe, Islamic World and Medieval World. 7. Critically evaluate the concept the decline of feudalism and advent of capitalism. 8. Critically analyze and describe the rise of Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty and abased dynasty. |
| **Semester –VI** |
| **Course code- HR06**  **Title: History of Modern World** |
| 1. Students' enable to understand the various socio-economic trends in modern period. 2. Critically evaluate how the modern west was emerged through renaissance and other socio-economic developments. 3. Critically analyze the rise of capitalism and imperialism led all these developments. 4. Critically evaluate how the new political system emerged based on representative system. 5. Explain and analyze the rise of new order in the world in the form of socialism and about the world crisis of 1919 and 1939 which led to world wars. |

B.A./ B.Sc. (N.M. and C.S.) Sanskrit

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| **Semester –I** |
| **Course Code: SA03, SAN03**  **Title: संस्कृ त – चयनिका** |
| **1.** प्रथम सत्र में वेद ों व उपनिषद ों से सामग्री सोंकलि नकया गया हैं निससे हमें हमारी प्राचीि सोंस्कृ नि व वेद ों - उपनिषद ों के महत्त्व का ज्ञाि प्राप्त ह िा है। ि हमारे सामान्य िीवि में ल क - व्यवहार में भी बहुि उपय गी नसद्ध ह िी हैं ।  **2.** 2. उपनिषद ों व सोंस्कृ ि के अन्य ग्रन् ों से सामग्री - सोंकलि करके कहानिय ों के माध्यम से िैनिक - निक्षा से अवगि कराया गया है। ि एक कु िल मागग पर अग्रसर ह िे के नलए प्रेररि करिी है। इसके साथ - साथ व्याकरण क भी पाठ्यक्रम में ि डा गया हैं ि की भाषा की िुद्धद्ध - करण के  नलए बहुि महत्त्वपूणग है। |
| **Semester –II** |
| **Course code- SA03, SAN03**  **Title: संस्कृ त – चयनिका** |

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| **1.** 1. नििीय सत्र में महाभारि, श्रीमद्भगवद˛ गीिा चाणक्य िीिी इत्यानद से सामग्री - सोंकनलि की गई है ि निक्षा की दृनि से बहुि उपय गी है इसमें दण्ड के नवषय में , द्धथथनिप्रज्ञ , व अन्य कु िल िीनिय ों के बारे में बिाया गया है । ि ज्ञाि - वर्गि में बहुि उपय गी व सामान्य िि के नलए प्रेरणादायी है।  **2.** इसके अनिररक्त पोंचिन्त्र , नहि पदे ि से भी पाठ्यक्रम में सामग्री सोंकलि नकया गया है ि नक बहुि नहिकारी व िैनिकिा पर बल दे िी हैं। इसके साथ - साथ व्याकरण क भी पाठ˛ यक्रम में ि डा गया है ि भाषा की िुद्धद्ध के नलए बहुि महत्वपूणग हैं। |
| **Semester –III** |
| **Course code- ES05**  **Title: sanskrit Prabodhika** |
| **1.** स्नािक नििीय वषग ऐद्धिक में सोंस्कृ िवाग्व्व्यवहार का ज्ञाि प्राप्त ह िा है।  **2.** इसके साथ - साथ रामायण के बालकाण्ड के प्रथम सगग क पाठ्यक्रम में निर्ागररि नकया गया हैं  निसे पढ़ कर भ्रािृ - भाव , नपिृ - भाव इत्यानद उिागर ह िे हैं। ि सामान्य एवों दैनिक नदिचयाग में बहुि महत्त्वपूणग नसद्ध ह िे हैं।  **3.** इसके अनिररक्त व्याकरण में प्रत्यय , समास, नहन्दी से सोंस्कृ ि अिुवाद क पाठ˛ यक्रम में लगाया गया है ि नक भाषा के ज्ञाि - वर्गि के नलए बहुि उपय गी हैं । |
| **Semester –IV** |
| **Course code- ES05**  **Title: sanskrit Prabodhika** |
| **1.** चिुथग सत्र में सोंस्कृ ि प्र ग्राम में श्रीमद्भगवद्गीिा एवों रघुवोंि का नििीय अध्याय पाठ्यक्रम में ि डा गया है। निससे सोंस्कृ ि भाषा का नवकास ह िा हैं। पढ़िे - नलखिे नवचार करिे और नकसी भी  नसद्धान्त और उसके व्यवहाररक पक्ष क समझिे का भरपूर मौका नमलिा है।  **2.** इसके अनिररक्त सोंस्कृ ि व्याकरण में प्रत्यय, समास, प्रत्याहार सूत्र व पत्र - लेखि क पाठ्यक्रम में  ि डा हुआ है ि की सोंस्कृ ि भाषा के नवकास व ज्ञाि के नलए बहुि महत्त्वपूणग है ।  **3.** इसी प्रकार बी ० ए ० स्नात्तक के अन्य कक्षाओों ( Abhigyan Shakuntlam, charuduttam etc. )का भी बहुि महत्तव है। सोंस्कृ ि पढ़िे से और ब लिे से व्यवहार में कु िलिा आिी है और ज्ञाि में वृद्धद्ध ह िी है। |

B.A Pass Course (Sociology)

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| **Semester –I** |
| **Course Code: Socio-01**  **Title: Basic Concept in Sociology** |
| 1. To introduce student knowledge of society and social structure. 2. It provides idea of society relationship with History, Economics Political Science and with other social science. 3. Introduce Society/Community Norms, Values, Nature & Characteristics. 4. It’s providing student knowledge of Social Groups (Primary, Secondary and Reference group) and it process, which help student to learn functioning of society. 5. It’s give knowledge of social institution like Marriage, Kinship and Family, which guide |

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| student for their social responsibilities. |
| **Semester –II** |
| **Course code- Socio-02**  **Title: Society, Culture and Social Change** |
| 1. It helps student to understand different type of societies like Tribal, Urban, Rural, Industrial, and there functioning and types. 2. It provides information about culture, socialization, social control and its importance, processes and types. 3. It provides information of processes of social changes, it’s nature and impact on society. 4. It provides understanding of Concept & Basic of Social Stratification like Caste, Class, Power & Gender. |
| **Semester –III** |
| **Course code- Socio-03**  **Title: Nomenclature of the Course: Research Methods & Methodology** |
| 1. Introduction to research method. 2. Learning of different research methods e.g., Schedule, Interview, Survey, Observation. 3. Learning of Statistical Methods e.g., Mean, Mode, Median. 4. Uses & Utility of modern communication means like internet and computer. |
| **Semester –IV** |
| **Course code- Socio-04**  **Title: Nomenclature of the Course: Social Problems in India** |
| 1. Introduction to Social Problems: Its Concepts and Types. 2. Tackle of Structural Issues like Inequality of Class and Gender. 3. Different Social Problems their causes and solutions. 4. Social disorganization factors, study like: Corruption, Crime, Suicide, Drug Addiction etc. |
| **Semester –V** |
| **Course code- Socio-05**  **Title: Foundation of Social Thought** |
| 1. Social thought is very important in digging out of social problem and it is important to draw scientific theory about a social problem. 2. Social thoughts represent particular place in society or culture and it is related to social environment. 3. It helps in understanding the cultural, social, economic and political relation and effect. 4. It helps student to understand, analyses and explain educational issues, Police and practices in order to improve education. 5. Course objective is to acquaint students with roots of sociological thinking in Europe. 6. Student are expected to understand the value of classical thought and learn to develop relevant and informed way of using it. |
| **Semester –VI** |
| **Course code- Socio-06**  **Title: Rural Society: Structure and Change** |
| 1. Rural Sociology enhance the social ideology of the student. 2. It helps in providing technology and systematic knowledge and reforms in farm |

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| production.   1. It gives us complete information knowledge of village life, which is the first unit of development in a country and helps to understand that Village are the center of culture of any country. 2. It helps student in organizing the disorganized rural structure. 3. It lays stress on the importance of increasing the quaintly and quality of production, which improves the economic status of rural society. |

B.A Programme (Physical Education)

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| **Semester –I** |
| **Title: PRINCIPLES AND FOUNDATION OF PHYSICAL EDUCATION** |
| 1. Able to know the importance of Physical Education. 2. Know about the historical development of the ancient games. 3. Able to know the historical development of national games. 4. Know the origin and development of physical education. 5. Analyse the Achievement of India in Team Games and Individual sports. 6. Analyse the Modern Olympics Games and rules of eligibility for competition. 7. Know the fundamental of all the games and sports |
| **Semester –II** |
| **Title: HEALTH AND YOGA** |
| 1. Understand the principles of Health and Health Education in Modern Society. 2. Know about the Personnel Hygiene and its importance. 3. Understand the meaning of communicable diseases. Know about Mode of transmission and prevention of the diseases. 4. Understand the meaning, types and aims of Yoga. 5. Learn about the Procedure and Benefits of the Asanas. 6. Read about the Surya Namaskar and the other Yoga Asanas. 7. Able to know the importance of light and cross ventilation at the school and the college level. |
| **Semester –III** |
| **Title: PHYSICAL ACTIVITY AND HEALTH** |
| 1. Understand the concept of health and its meaning and definition. 2. Able to know the WHO and UNICEF role in physical and health education. 3. Understand the importance of Balance diet, nutritional tips. 4. Know about the value of the posture. 5. Understand the effects of poor posture and know about how to improve it. 6. Understand the principles of the First Aid. 7. Know about the lifestyle diseases like obesity, heart disease and diabetes. 8. To know about the prevention of disease through exercise |
| **Semester –IV** |
| **Title: PHYSICAL FITNESS AND YOGA** |
| 1. Understand the need of Physical Education in the modern society. 2. Understand the relationship of Physical Education with General Education. 3. Know about the factors influencing Physical Education. 4. Know about the types of warming up, guiding principles of warming up and Importance |

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| of warming up and cooling down.   1. Learn about the Physiological values of sudhi kriyas. 2. Know about the meaning, types and educational values of camping. 3. Know the aims and objectives of Physical Education. |
| **Semester –V** |
| **Title: SOCIOPSYCHOLOGICAL FOUNDATION OF PHYSICAL EDUCATION** |
| 1. Learning of sports activity. 2. Understand the law of learning, their application to situations on playground. 3. Traditions and their influence on behaviour patterns. 4. Know about the effects of socioeconomic status on sports, spectators and crowd behaviour Sports and economy. 5. Able to know the need and importance of conditioning and methods of conditioning. 6. Learn about the types of doping and prevention of doping. 7. Know the techniques of quitting smoking and drinking habits |
| **Semester –VI** |
| **Title: ORGANIZATION AND MANAGEMENT OF PHYSICAL EDUCATION** |
| 1. Know the meaning, importance a scope of sports management. 2. Understand the factors influencing sports management. 3. Know about the prevention of the sports injury and rehabilitation. 4. Know about the role of Physical Education teacher in Rehabilitation. 5. Learn the meaning of professional preparation, definition and significance of profession preparation in Physical Education. 6. Learn how to design the curriculum in Physical Education. 7. Know about the Qualification and Qualities needed for a Physical Education Teacher. 8. Know the Meaning and scope of rehabilitation in Physical Education. |

B.Sc. (Home Science)

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| **Semester –I** |
| **Course Code: 101**  **Title: English Language and Communication Skills** |
| 1. Understand the theory, fundamentals and tools of communication. 2. Develop skills to share thoughts, emotions and ideas through various means of communication (verbal and non-verbal). 3. Develop various speaking skills integral to personal, social and professional interactions. 4. Acquire important reading and writing skills. 5. Differentiate between personal and professional interactions. |
| **Course code- 102**  **Title: Applied Chemistry** |
| 1. Study different chemicals/compounds, their reactions and their applications in everyday life. 2. Acquire the ability to correlate structures of compounds with their properties and functions. |
| **Course code- 103** |

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| **Title: Human Physiology** |
| 1. Understand the physiology of all the systems of the human body. 2. Develop a holistic understanding of mental, reproductive and social health |
| **Course code- 104**  **Title: Introductory Clothing** |
| 1. Develop the understanding about Equipment and tools for measuring, drafting, pinning, marking, cutting and sewing. 2. Understand the Sewing Machine - Parts and functions, basic operations, defects and remedies, care. 3. To study the Anthropometric measurements and points to consider while taking body measurements. |
| **Course code- 105**  **Title: Hygiene and Public Health** |
| 1. Understand the various Infectious diseases – Cause, Symptoms, mode of spread, treatment and prevention. 2. Acquire the ability to understand Personal Hygiene-physical health, regular habits in daily   living, eating and eliminating, cleanliness of body and different organs, rest and sleep, exercise & its importance. |
| **Course code- 106**  **Title: Basic Foods** |
| 1. Understand the relationship between food, nutrition and health. 2. Understand the functions of food. 3. Classify foods into various food groups. 4. List the advantages and disadvantages of various methods of preparing food. 5. Understand the concept of nutrient losses during cooking and enhancement of nutritional quality of foods. |
| **Semester –II** |
| **Course code- 201**  **Title: English Language and Communication Skills – II** |
| 1. Develop skills to share thoughts, emotions and ideas through various means of communication (verbal and non-verbal). 2. Develop various speaking skills integral to personal, social and professional interactions. 3. Acquire important reading and writing skills. |
| **Course code- 202**  **Title: Applied Physics** |
| 1. Understand properties of matter 2. Learn basic principles, theories and laws of physics and correlate them with real life situations. 3. Understand the working principle of different equipment and precautions to be taken while working with them. 4. Acquire skills to handle electrical appliances cautiously. |
| **Course code- 203**  **Title: Human Development-I** |
| **1.** Understand meaning of growth, development and various stages of human development |

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| **2.** Acquire skill to judge, physical development, motor, social, emotional development, motor, social, emotional cognitive. Factors influencing development. |
| **Course code- 204**  **Title: Introduction to Textiles** |
| 1. Describe textile fibres in terms of their production and properties. 2. Understand various production techniques and properties of yarns. 3. Identify fabrics and relate it to specific products keeping in mind fabric properties and characteristics. 4. Understand various types of weaves and blends. |
| **Course code- 205**  **Title: Applied Botany** |
| 1. Understand the meaning of home gardening, Soil- structure, soil profile, components, different types of soil, tillage. 2. Describes Principles and layout of kitchen garden, utilization of space by intense successive cultivation, crop rotation, role of microorganisms in soil fertility, inter- cropping, raising of healthy seedling. 3. Acquire skills for Economic Botany – commonly used herbal and medicinal plants 4. Lawn planning and maintenance. |
| **Course code- 206**  **Title: Fundamentals of Nutrition** |
| 1. Comprehend the relationship between food, nutrition and health. 2. Understand the functions of food, various food groups, balanced diet and principles of meal planning. 3. Understand functions of various nutrients and their sources & gaining knowledge about clinical manifestations of excess/ deficiency of nutrients. |
| **Semester –III** |
| **Course code- 301**  **Title: Extension Education and Rural Development** |
| 1. Understand the meaning and philosophy of extension education 2. Recognizing various approaches for imparting education to people belongs to low socioeconomic groups 3. Learn the role of various community development programmes run by the government. |
| **Course code- 302**  **Title: Human Development-II** |
| 1. Understand the role of parents and teachers to overcome adolescent problems. 2. Analysing impact of various changes on adolescent wellbeing. 3. Learn about various development needs of children during early childhood years and pre adolescence period. |
| **Course code- 303**  **Title: Psychology-I** |
| 1. Understand the role of parents and teachers to overcome adolescent problems. 2. Analysing impact of various changes on adolescent wellbeing. 3. Learn about various development needs of children during early childhood years and pre adolescence period. |

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| **Course code- 304**  **Title: Introduction to Home Management-I** |
| 1. Understand the effective management by using different resources. 2. Recognize the factors motivating management. 3. Learn the stages of family life cycle. 4. Understand management process. |
| **Course code- 305**  **Title: Laundry Science and Finishing Fabrics** |
| 1. Recognize various laundry tools and their use. 2. Understand different types of soaps and detergents and their use on different fabrics. 3. Understand different types of stains and methods to remove them. 4. Analyse different types of dyes and acquire skills of different types of printing. |
| **Course code- 306**  **Title: Consumer Economics** |
| 1. Recognize various laws of consumption. 2. Understand Basic concepts of economics. 3. Acquire skills to learn about different consumer problems. 4. Analyse different consumer rights. 5. Imparting consumer education. |
| **Course code- 307**  **Title: Food Science-I** |
| 1. Understand food science and its applications. 2. Recognize space foods and skills of packaging foods. 3. To know about composition, nutritive value, storage and uses in different preparations of all food groups. |
| **Semester –IV** |
| **Course code- 401**  **Title: Community Development** |
| 1. Understand scope and importance of communication., Elements of communication, Problems of communication with special reference to India, Models of communication and various types of communication. 2. Identifying different methods of teaching their uses, advantages and disadvantages 3. Develops understanding about uses of audio-visual aids their advantages and disadvantages. 4. Upscale Knowledge of Panchayati raj system. |
| **Course code- 402**  **Title: Human Development-III** |
| 1. Understand various health issues of middle and late childhood period. 2. Recognizing psychological needs of old age people and copying strategy. 3. Learn about significance of adulthood period, responsibilities and adjustment. |
| **Course code- 403**  **Title: Psychology-II** |
| 1. Apprehend basic concept of motivation and their uses in daily life. 2. Understand learning theories their merits and demerits. |

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| 1. Develop understanding of intelligence, thinking imagination and reasoning. 2. Understand memory and different techniques of developing memories. 3. Upscale the knowledge of personality types, theories and factors affecting personality. |
| **Course code- 404**  **Title: Institutional Food Management** |
| 1. Understand catering management and importance of hygiene and sanitation in catering. 2. Develops skills in organization of spaces. 3. Apply skills in menu planning and quality food production. |
| **Course code- 405**  **Title: Garment Construction and Apparel Science** |
| 1. Develop skills to select garments for different age groups, mending and renovation of clothes. 2. Understand construction techniques. 3. Recognize fashion and fashion cycle. |
| **Course code- 406**  **Title: Introduction to Home Management-II** |
| 1. Acquire skills of financial management and making budget. 2. Learn calculation of income tax and savings. 3. Understand ergonomics and work simplification. 4. Understand calculation of colour and elements of art. |
| **Course code- 407**  **Title: Food Science-II** |
| 1. Understand food science and its applications. 2. Recognize raising and leavening agents. 3. To know about composition, nutritive value, storage and uses in different preparations of all food groups. |
| **Semester –V** |
| **Course code- 501**  **Title: Family Dynamics** |
| 1. Conceptual understanding of marriage and its types. 2. Upscale knowledge about needs, goals, criteria for successful marriage. 3. Learn concepts of family, its functions and family life cycle. 4. Understand emergent and changing trends in India due to westernization. |
| **Course code- 502**  **Title: Child Care & Rearing Practices** |
| 1. Understand human development stages. 2. Acquire knowledge about feeding and care of new born, their specific types of training. 3. Develop understanding about problems related to children and their remedies. |
| **Course code- 503**  **Title: Nutritional Biochemistry-I** |
| 1. Develop an understanding about principles of biochemistry. 2. Understand chemistry of major nutrients. 3. Learn absorption, assimilation, biosynthesis and catabolism. 4. Gain knowledge of structure and cycles of carbohydrates and proteins. |

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| **Course code- 504**  **Title: Community Nutrition** |
| 1. Acquire skills to improve quality of life. 2. Contribution to health promotion of population in community. 3. Develop skills for assessment of malnutrition at community level. 4. Gain knowledge about various programmes and services run by the government. |
| **Course code- 505**  **Title: Indian Textiles** |
| 1. Study of Indian textiles in historical perspectives. 2. Acquire skills of doing traditional Indian embroideries by understanding its origin. 3. Develops skills of identifying various dyeing and printing techniques used in different parts of country. |
| **Course code- 506**  **Title: Interior Space Designing** |
| 1. Understand principles and elements of art. 2. Provides efficient solutions for better use of space. 3. Recognize various materials and finishes to use. 4. Acquire skills to improve quality of life through design and decoration. 5. Understand planning of room and kitchen. 6. Care and maintenance of household equipment. |
| **Course code- 507**  **Title: Normal Nutrition** |
| 1. Understand health, Nutrition and factors affecting energy requirements. 2. Acquire skills of menu planning for different age groups. 3. Learn nutritional requirements and nutrition problems of different age groups. |
| **Semester –VI** |
| **Course code- 601**  **Title: Women Empowerment** |
| 1. Understand concept, objectives and philosophy of child welfare. 2. Gain knowledge about wide range of childhood disabilities, problems and remedies of school dropouts. 3. Examine the role of media in development of children. 4. Acquire the knowledge of voluntary and international agencies working for child welfare. |
| **Course code- 602**  **Title: Child Welfare** |
| 1. Understand concept, objectives and philosophy of child welfare. 2. Gain knowledge about wide range of childhood disabilities, problems and remedies of school dropouts. 3. Examine the role of media in development of children. 4. Acquire the knowledge of voluntary and international agencies working for child welfare. |
| **Course code- 603**  **Title: Nutritional Biochemistry-II** |
| 1. Develop an understanding of lipids and biosynthesis of fatty acids and proteins. 2. Understand biological oxidation and theories of oxidative phosphorylation. |

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| 1. Gain knowledge of nucleic acid, its structure, replication, transcription process. 2. Apply the knowledge acquired to human nutrition and dietetics. |
| **Course code- 604**  **Title: Food Microbiology** |
| 1. Recognize mould, yeast and bacteria. 2. Understand uses of beneficial microorganisms, their sources in foods and factors affecting their growth. 3. Learn food preservation techniques. 4. Identifying food borne infections and intoxications. |
| **Course code- 605**  **Title: Apparel Designing** |
| 1. Understand various components of design, principles of design and its applications 2. Develop skills of designing clothes for various types of figures. 3. Learn computer aided designing. |
| **Course code- 606**  **Title: Interior Designing** |
| 1. Understand selection and types of furniture. 2. Learn importance of accessories in interior decoration. 3. Understand wall finishes and floor treatment. 4. Learn about arrangement of flowers and their shapes. 5. Develop skills of window treatment and hanging of curtains. |
| **Course code- 607**  **Title: Therapeutic Nutrition** |
| 1. Causes and nutritional management in different lifestyle diseases. 2. Understand Principles of Diet Therapy. 3. Acquire skills of Modification of normal diet for therapeutic purposes, full diet soft diet, fluid diet, Bland diet. |

B.Sc. with Chemistry

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| **Semester –I** |
| **Course Code: CH101**  **Title: INORGANIC CHEMISTRY** |
| 1. To understand the concept of atomic orbitals, quantum numbers, wave functions, de Broglie matter waves and Heisenberg uncertainty principle. 2. To study the general principles of periodic table, electronic configuration of elements and trends in the periodic table like atomic radii, ionic radii, ionization energy, electron affinity and electronegativity. 3. Knowledge of Valence bond theory, Valence shell electron pair repulsion theory and Molecular Orbital theory. 4. To study the ionic structures (NaCl, CsCl, ZnS, CaF2), lattice defects radius ratio effect, Born-Haber cycle, Fajan's rule and the concept of Solvation energy. |
| **Course code- CH102**  **Title: PHYSICAL CHEMISTRY** |
| **1.** To understand Maxwell’s distribution of velocities, Deviation of Real gases from ideal |

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| behaviour and Derivation of Vander Waal’s Equation of State and its applications.   1. Knowledge of Critical temperature, Critical pressure, critical volume, PV isotherms of real gases and about Liquefaction of gases. 2. To understand the structure and Properties of liquids – surface tension, viscosity, vapour pressure and optical rotations and their determination. 3. To understand the Laws of crystallography, Derivation of Bragg equation and Determination of crystal structure of NaCl and KCl. |
| **Course code- CH103**  **Title: ORGANIC CHEMISTRY** |
| 1. To understand the concept and types of isomerism, resonance, hyperconjugation, inductive effect, electrometric effect & their comparison. 2. To understand R & S systems and E & Z system of nomenclature, conformational analysis of ethane and n-butane & Newman projection and Sawhorse formulae 3. To understand the Types of organic reactions & Energy considerations, Reactive intermediates, carbocations, carbanions, free radicals, carbenes, arynes and Nitrenes. 4. Knowledge of IUPAC nomenclature of branched and unbranched alkanes, synthesis of Cycloalkanes and their derivatives along with Baeyer's strain theory and its limitations. |
| **Course code- CH104**  **Title: CHEMISTRY PRACTICAL BASED ON CH101, 102 AND 103.** |
| 1. To perform redox titrations, Iodometric titrations and Complexometric titrations. 2. To determine the surface tension of a given liquid by drop number method. 3. To determine the viscosity of a given liquid. 4. To determine the specific refractivity of a given liquid. |
| **Semester –II** |
| **Course code- CH201**  **Title: INORGANIC CHEMISTRY** |
| 1. Concept of Hydrogen Bonding, Vander Waals Forces and Knowledge of Semiconductors. 2. Comparative study of the elements and Chemistry of xenon, structure and bonding of fluorides, oxides & oxyfluorides of xenon. 3. Emphasis on comparative study of properties of p-block elements, to understand Diborane, Knowledge of Borazine, Silicones and Catenation. 4. Discussion of Oxides, Oxyacid, white, yellow and red phosphorus, H2O2 and to study Hydro and oxyacid of chlorine. |
| **Course code- CH202**  **Title: PHYSICAL CHEMISTRY** |
| 1. To understand the Rate of reaction, order of reaction and half-life period of a reaction. 2. To understand Theories of reaction rate and Arrhenius equation. 3. Knowledge of Electrolytic conduction and factors affecting electrolytic conduction, Arrhenius theory of ionization and Ostwald’s Dilution Law and Debye- Huckel – Onsager’s equation for strong electrolytes. 4. To understand Kohlarausch’s Law and its application, conductometric titrations and Henderson –Hazel equation |
| **Course code- CH203**  **Title: ORGANIC CHEMISTRY** |
| **1.** To study the Nomenclature of alkenes, Saytzeff rule, Hofmann elimination, reaction |

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| mechanisms involved and Markownikovs rule.   1. Knowledge of Aromatic, anti - aromatic and non – aromatic compounds, Aromatic electrophilic substitution, General pattern of the mechanism and Energy profile diagrams. 2. Nomenclature and classification of dienes and alkynes, chemical reactions and acidity of alkynes, Mechanism of electrophilic and nucleophilic addition reactions. 3. Study of Mechanisms and stereochemistry of nucleophilic substitution reactions of alkyl and aryl halides, About SN2 and SN1reactions with energy profile diagrams and Discussion of Relative reactivates of halides. |
| **Course code- CH204**  **Title: CHEMISTRY PRACTICAL BASED ON CH201, 202 AND 203** |
| 1. Qualitative Analysis of the Inorganic cations and anions by paper chromatography 2. Preparation and purification of compounds through crystallization or distillation and ascertaining their purity through melting point or boiling point. 3. To study the process of sublimation of camphor and phthalic acid. |
| **Semester –III** |
| **Course code- CH301**  **Title: INORGANIC CHEMISTRY** |
| 1. To understand General characteristics & properties of first transition elements. 2. To understand General characteristics and properties of the second and third transition elements. 3. Discussion of Valence bond theory of transition metal complexes. 4. To understand Physical properties of a solvent, types of solvents and their general   characteristics, Reactions in non-aqueous solvents with reference to liquid NH3 and liquid SO2. |
| **Course code- CH302**  **Title: PHYSICAL CHEMISTRY** |
| 1. Definition of thermodynamic terms, Knowledge of Types of systems, Thermodynamic process, Discussion of First law of thermodynamics, Joule’s law, Joule Thomson coefficient for ideal gases and real gas and Inversion temperature. 2. Calculation of w, q, dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process, to understand Temperature dependence of enthalpy and Kirchhoff’s equation. 3. Knowledge of Equilibrium constant, Van’s Hoff reaction isochore and Van’t Hoff reaction isotherm, Le-Chatetier’s principle and its applications. 4. About Nernst distribution law – its thermodynamic derivation and modification of distribution law. |
| **Course code- CH 303**  **Title: ORGANIC CHEMISTRY** |
| 1. To study the Nomenclature of Monohydric alcohols and methods of formation, chemical reactions of vicinal glycols, synthesis and chemical reactions of epoxides. 2. To understand the concept of phenols and comparative acidic strengths of alcohols and phenols. 3. About Absorption laws, types of electronic transitions and effect of conjugation, Woodward- Fiserv rules and Applications of UV Spectroscopy. 4. To study Nomenclature of Carboxylic acids, structure, nomenclature and preparation of acid chlorides, esters, amides and acid anhydrides. |

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| **Course code- CH304**  **Title: CHEMISTRY PRACTICAL BASED ON CH301, 302 AND 303.** |
| 1. Quantitative estimations of Cu2+ as copper thiocyanate and Ni2+ as Ni – dimethylglyoxime. 2. Detection of extra elements, functional groups and determination of melting point or boiling point. 3. Preparation of pure solid derivative of compounds. |
| **Semester –IV** |
| **Course code- CH401**  **Title: INORGANIC CHEMISTRY** |
| 1. Knowledge of Lanthanides. 2. To study Chemistry of Actinides. 3. To understand the Chemistry of analysis of various acidic radicals. 4. To understand Chemistry of analysis of various groups of basic radicals. |
| **Course code- CH 402**  **Title: PHYSICAL CHEMISTRY** |
| 1. To understand Second law of thermodynamics, Carnot’s cycles and its efficiency and Concept of entropy. 2. About Third law of thermodynamics, Evaluation of absolute entropy from heat capacity data, Knowledge of A & Gas criteria for thermodynamic equilibrium and spontaneity. 3. To understand Electrolytic and Galvanic cells, Calculation of thermodynamic quantities of cell reactions, Types of electrodes, electrochemical series and its applications. 4. To understand Liquid junction potential and application of EMF measurement, potentiometric titrations and determination of ph. |
| **Course code- CH403**  **Title: ORGANIC CHEMISTRY** |
| 1. To understand the interpretation of IR spectra of simple organic compounds and applications of IR spectroscopy in structure elucidation of organic compounds 2. To understand Electrophilic aromatic substitution in aryl amines and Reactions of amines. 3. To understand Mechanism of diazotization, replacement of diazo group, preparation of nitro alkanes and nitro arenes and their chemical reactions. 4. To understand Nomenclature and structure of the carbonyl group, Mechanism of nucleophilic additions to carbonyl group and chemical reactions. |
| **Course code- CH404**  **Title: CHEMISTRY PRACTICAL BASED ON CH401, 402 AND 403.** |
| 1. To verify Beer - Lambert law for KMnO4 /K2Cr 2O7 and determine the concentration of the given KMnO4 /K2Cr 2O7 solution. 2. To determine the enthalpy of neutralisation of a weak acid/weak base vs. strong base/strong acid and determine the enthalpy of ionisation of the weak acid/weak base. 3. To study the distribution of iodine between water and CCl4. |
| **Semester –V** |
| **Course code- CH501**  **Title: INORGANIC CHEMISTRY** |
| **1.** Knowledge of elementary idea of crystal-field theory and crystal field splitting in octahedral, tetrahedral and square planar complexes along with factors affecting the |

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| crystal-field parameters.   1. A brief outline of thermodynamic stability factors affecting the stability of metal complexes and substitution reactions of square planar complexes of Pt(II). 2. To explain the methods of determining magnetic susceptibility and orbital contribution to magnetic moments and Application of magnetic moment data for 3d metal complexes. 3. Knowledge of Selection rules for d-d transitions, orgel-energy level diagram for d1 and d9 states and discussion of the electronic spectrum of [Ti(H2O)6]3+ complex ion. |
| **Course code- CH502**  **Title: PHYSICAL CHEMISTRY** |
| 1. To study Black-body radiation, Plank’s radiation law, photoelectric effect, heat capacity of solids, Compton effect, operators and determination of wave function & energy of a particle in one dimensional box. 2. To explain Clausius – Mossotti equation, dipole moments, temperature method, refractivity method, determination and applications of magnetic susceptibility. 3. Basic features of spectroscopy, energy levels of rigid rotator, Maxwell-Boltzmann distribution, determination of bond length and qualitative description of non-rigid rotor 4. To study Infrared spectrum of simple harmonic oscillator, idea of vibrational frequencies of different functional groups, Concept of polarizability and to study pure rotational and pure vibrational Raman spectra of diatomic molecules. |
| **Course code- CH503**  **Title: ORGANIC CHEMISTRY** |
| 1. To understand the principle of nuclear magnetic resonance, features of PMR spectrum, about Chemical shift, shielding and DE shielding of protons, proton counting, splitting of signals, coupling constants and to understand the magnetic equivalence of protons 2. Discussion of PMR spectra of the molecules and study of PMR spectroscopy for structure determination of organic compounds 3. To understand the mechanism of ozone formation, interconversion of glucose and fructose, chain lengthening and chain shortening of aldoses, formation of glycosides, ethers and esters, determination of open chain and cyclic structure of D(+)-glucose & D(-) fructose, to understand the mechanism of mutarotation and to explain the structures of ribose and deoxyribose. 4. An introduction to disaccharides and polysaccharides and to understand organ magnesium, organozinc and organolithium compounds. |
| **Course code- CH504**  **Title: CHEMISTRY PRACTICAL BASED ON CH501, 502 AND 503.** |
| 1. Qualitative analysis of mixture containing not more than four radicals. 2. Separation of leaf pigments from spinach leaves and determination of Rf values through chromatography. |
| **Semester –VI** |
| **Course code- CH601**  **Title: INORGANIC CHEMISTRY** |
| 1. Definition, nomenclature and classification of organometallic compounds, preparation, properties, and bonding of alkyls of Li, Al, Hg, and Sn, a brief account of metal-ethylenic complexes, mononuclear carbonyls and the nature of bonding in metal carbonyls. 2. To study different concepts of acids and bases, relative strength of acids & bases and to understand the Concept of Hard and Soft Acids & Bases. 3. To understand the essential and trace elements in biological processes, |

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| metalloporphyrin’s with special reference to haemoglobin and myoglobin, biological role of alkali and alkaline earth metal ions with special reference to Ca2+ and Nitrogen fixation.  **4.** To know about the preparation, properties, structure and uses of silicones and phosphagens. |
| **Course code- CH602**  **Title: PHYSICAL CHEMISTRY** |
| 1. Qualitative description of selection rules, Franck- Condon principle, qualitative description of sigma and pie and n molecular orbital (MO) their energy level and respective transitions. 2. To understand the Laws of photochemistry, Jablonski diagram and to understand quantum yield and photosensitized reactions-energy transfer processes. 3. To understand the methods of expressing concentrations of solutions, experimental methods for determining various colligative properties and abnormal molar mass and degree of dissociation and association of solutes. 4. Thermodynamic derivation of Gibbs phase rule and phase equilibria of one and two component systems. |
| **Course code- CH603**  **Title: ORGANIC CHEMISTRY** |
| 1. Knowledge of aromatic characteristics of pyrrole, furan, thiophene and pyridine along with methods of synthesis and their chemical reactions, Mechanism of nucleophilic substitution reactions in pyridine derivatives and comparison of basicity of pyridine, piperidine and pyrrole. 2. Introduction to condensed five and six- membered heterocycles, preparation and reactions of indole, quinoline and is quinoline and mechanism of electrophilic substitution, methods of formation and chemical reactions of thiols, thioethers, sulphonic acids, sulphonamides and sulphaguanidine along with synthetic detergents. 3. To understand the acidity of alpha hydrogens, Claisen condensation and keto-enol tautomerism of ethyl acetoacetate, to understand polymerization processes along with natural and synthetic rubbers. 4. To understand the classification and preparation of amino acids, acid-base behaviour, isoelectric point and electrophoresis, peptide structure determination, end group analysis & selective hydrolysis of peptides, classical peptide synthesis and solid phase peptide synthesis, primary & secondary structures of peptides and proteins. |
| **Course code- CH604**  **Title: CHEMISTRY PRACTICAL BASED ON CH601, 602 AND 603.** |
| 1. To determine the strength of the given acid solution conductometric ally. 2. To determine the strength of given acid solution potentiometrically. 3. To determine the strength of given acid solution pH metrically. 4. To determine the molecular weight of a non-volatile solute by Rast method. 5. Synthesis of the organic compounds. |

B.Sc. (Medical Science) Zoology

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| **Semester –I** |
| **Course Code: 1.1** |

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| **Title: LIFE AND DIVERSITY FROM PROTOZOA TO HELMINTHES** |
| 1. B. Sc 1st (Medical) 1st semester (Life and Diversity from Protozoa to Helminthes) . 2. Knowledge of environmental creatures is gained. 3. Know about their economic benefits and Ill effects. 4. Cure diseases by controlling their specified organisms. 5. Maintain diversity of environment to sustain better life. |
| **Course code- 1.2**  **Title: CELL BIOLOGY** |
| 1. Know the building blocks of life. 2. Treat cancer and remove it utmost from the world. 3. Differentiate organisms on the basis of cellular level. 4. Know about various sets of signalling and specifications occurring in one’s own body. |
| **Course code- P-101**  **Title: PRACTICAL (1.1 &1.2)** |
| 1. Students will be able to define and explain major concepts in the biological sciences. They are able to correctly use biological instrumentation and proper laboratory techniques. 2. Students will be able to communicate biological knowledge in oral and written form. |
| **Semester –II** |
| **Course code- 2.1**  **Title: LIFE AND DIVERSITY FROM ANNELIDA TO HEMICHORDATA** |
| 1. Annelids taught how to be a helping hand in agriculture. 2. Arthropods being the one who are best for pollination in plants. 3. Act as connecting link in evolution. 4. Molluscs and Echinoderms lead to the study of aquatic life forms and meanwhile, molluscs act as economically beneficial. Example-pearl. |
| **Course code- 2.2**  **Title: GENETICS** |
| 1. Find out the cause of disease resides in the genome sequence. 2. Figure out the gene structure of an organism. 3. Calculate the anomalous behaviour of organisms via C-value paradox. 4. Find out the alteration and aberration in general/chromosomal structure of an organism leading to disease. |
| **Course code- P-201**  **Title: PRACTICAL (2.1 & 2.2)** |
| The procedural knowledge about identifying and classifying animals will provide students professional advantages in teaching, research and taxonomist jobs in various government organizations; including Zoological Survey of India and National Parks/Sanctuaries. |
| **Semester –III** |
| **Course code- 3.1**  **Title: LIFE AND DIVERSITY OF CHORDATES – I** |
| **1.** Provides students with an in-depth knowledge of diversity in form, structure & habits of |

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| chordates.   1. Learn basics of systematic & understand hierarchy of different categories in chordates. 2. To describe the unique characters of Urochordata, Cephalochordate & Fishes. 3. To recognize the life functions of Urochordates, Cephalochordates & Fishes. 4. Imparts conceptual knowledge of vertebrate adaptations in relation to their environment. |
| **Course code- 3.2**  **Title: MAMMALIAN PHYSIOLOGY – I** |
| 1. To understand the various Biomolecules in mammalian body. 2. To understand the structural chemistry of proteins, carbohydrates & fats. 3. To understand the functions of Biomolecules. 4. To understand the metabolic activities in mammalian body. 5. To understand the physiology at the cellular & system level. |
| **Course code- P-301**  **Title: PRACTICAL (3.1 & 3.2)** |
| Students will be able to identify the relationship or synchronization between structure and function at all levels: molecular, cellular, and organismal. |
| **Semester –IV** |
| **Course code- 4.1**  **Title: LIFE AND DIVERSITY OF CHORDATES – II** |
| 1. Obtain overview of economically important chordates. 2. To understand the origin & evolutionary relationship in different subphylum of chordates. 3. To describe the unique characters of amphibians, reptiles, Aves & mammals. 4. To recognize the life functions of amphibians, reptiles, Aves & mammals. 5. To understand the ecological role of different classes of chordates. |
| **Course code- 4.2**  **Title: MAMMALIAN PHYSIOLOGY – II** |
| 1. To understand how mammalian body get nutrition from different Biomolecules. 2. To understand the nature of endocrine glands & their secretions. 3. To understand the blood flow & working of heart. 4. To understand how physiological parameters are measured in mammals. 5. To describe the physiology of respiratory, renal. Endocrine & reproductive system to define their normal & abnormal functions. |
| **Course code- P-401**  **Title: PRACTICAL (4.1 & 4.2)** |
| Students should be able to identify, classify and differentiate diverse chordates and no chordates based on their morphological, anatomical and systemic organization. They will also be able to describe economic, ecological and medical significance of various animals in human life. |
| **Semester –V** |
| **Course code- 5.1**  **Title: FISH AND FISHERIES** |
| 1. Provides students with an in-depth knowledge of different types of fish culture. 2. Learn about the consumable fish of fresh water & marine water. 3. Learn about the different types of foods needs to provide to the different stages of fish. 4. To recognize different types of Fishing craft and fishing gears used in fish capturing. |

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| **Course code- 5.2**  **Title: ECOLOGY & EVOLUTION** |
| 1. To understand the various factors which affect our environment. 2. CO2: To understand the structural components of environment. 3. CO3: To understand ecosystem energetics, food chain food web. 4. CO4: To understand the evolution theories, process of speciation. 5. CO5: To understand the phylogeny of human. |
| **Course code- P501**  **Title: PRACTICAL (5.1&5.2)** |
| Students undertaking skill enhancement courses like aquaculture, sericulture and apiculture will inculcate skills involved in rearing fish, bees and silk moth which would help them in starting their own ventures and generating self-employment making them successful  entrepreneurs. |
| **Semester –VI** |
| **Course code- 6.1**  **Title: ENTOMOLOGY** |
| 1. To understand about different types of pests of cash crops, Vegetables and stored grain. 2. To understand about different control methods of pest control. 3. To understand about integrated pest management. |
| **Course code- 6.2**  **Title: DEVELOPMENTAL BIOLOGY** |
| 1. To understand the process of gamete formation. 2. To understand Fertilization and further development process in invertebrate and vertebrate. 3. To understand the scope of developmental biology. |
| **Course code- P-601**  **Title: PRACTICAL (6.1&6.2)** |
| 1. This will create a curiosity and awareness among them to explore the animal diversity and take up wild life photography or wild life exploration as a career option. 2. The procedural knowledge about identifying and classifying animals will provide students professional advantages in teaching, research and taxonomist jobs in various government organizations; including Zoological Survey of India and National Parks/Sanctuaries. |

B.Sc. Botany

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| **Semester –I** |
| **Course Code: BOT.1.1**  **Title: Diversity of Microbes** |
| On completion of the course, students are able:   1. To understand biodiversity, systematics, morphology and brief knowledge of life history of Bacteria, Cyanobacteria, Algae and Fungi. 2. To have insight on general account of viruses including their significance. 3. To understand structure, habits and significance of lichens. 4. To understand economic importance of Microbes including algae, fungi and bacteria. |

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| Gain knowledge about the diseases caused by some of these and their control measures. |
| **Course code- BOT1.2**  **Title: CELL BIOLOGY** |
| 1. To learn Microscope handling techniques. 2. To identify various algae, fungi and lichens. 3. To become aware of applications of algae, fungi and lichens in various industries. 4. To highlight the potential of these studies to become an entrepreneur. 5. To have an insight on the eukaryotic cell structure, cell organelles, cell cycle and mitotic and meiotic cell division. 6. Ultra-Structure and organization of cell membrane and chromosomes 7. Chromosomal aberrations: Structural and Numerical - deletions, duplications, translocations, inversions, aneuploidy, polyploidy, Sex chromosomes and Sex   determination in Plants. |
| **Course code- P-101**  **Title: PRACTICAL (1.1 &1.2)** |
| To equip the students with skills related to laboratory as well as industries-based studies. |
| **Semester –II** |
| **Course code- BOT 2.1**  **Title: DIVERSITY OF ARCHEGONIATES** |
| 1. To make students able to understand structure, classification, life history and economic importance of Bryophytes and Pteridophytes. 2. To have basic understanding of concept of heterospory and stellar evolution in Pteridophytes. 3. To understand alternation of generation and evolution of sporophytes in Bryophytes. 4. To have an idea of identification of various Bryophytes and Pteridophytes |
| **Course code- BOT 2.2**  **Title: GENETICS** |
| 1. To have understanding of Structure of DNA AND RNA including Replication of DNA 2. To understand various laws of genetic inheritance suggested by Mendel. 3. To have brief understanding of concept of Mutations. 4. To study concept of Gene and Ribosomes including structure of Proteins. 5. To have basic understanding of Transcription, Translation and regulation of gene expression in prokaryotes and eukaryotes. |
| **Course code- P-102**  **Title: PRACTICAL (2.1 & 2.2)** |
| 1. To have practical understanding of Mendelian genetics by Numerical. 2. Identify, classify and write short morphological notes giving well labelled diagrams on the given two specimens from Bryophytes and Pteridophytes. |
| **Semester –III** |
| **Course code- BOT 3.1**  **Title: Biology and Diversity of Seed Plants-I** |
| **1.** General characters, origin and evolution of Gymnosperms Geological Time Table; |

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| Evolution of Seed Habit. Pilger and Melchior’s (1954) system of classification of Gymnosperms.   1. Palaeobotany- Fossils and Fossilization (Process involved, types of fossils and importance of fossils); Reconstruction of the following fossil plants. 2. Morphology and anatomy of root, stem, leaf/leaflet and reproductive parts including mode of reproduction, life-cycle and economic importance of following plants: Cycas Pinus. 3. Morphology and anatomy of root, stem, leaf/leaflet and reproductive parts including mode of reproduction, life-cycle and economic importance of Ephedra Economic importance of Gymnosperms General characters, origin and evolution of Angiosperms. |
| **Course code- BOT3.2**  **Title: PLANT ANATOMY** |
| 1. To understand the Tissues - meristematic and permanent (simple, complex and secretory) Tissue systems (Epidermal, ground and vascular) The Shoot system - shoot apical meristem and its histological organizations. 2. To understand the Cambium - structure and functions. Secondary growth in dicot stem; characteristics of growth rings; sap wood and heart wood, periderm; Anomalous secondary growth (Dracaena, Boerhaavia and Achyranthes) 3. To understand the Leaf: Types of leaves (simple and compound); phyllotaxy. Epidermis- uniseriate and multiseriate, epidermal appendages and their morphological types. Anatomy of typical Monocot and Dicot leaf and cell inclusions in leaves, leaf abscission, Stomatal apparatus and their morphological types. 4. To understand Root system: Root apical meristem; histological organization Secondary growth in dicot root. Structural modifications in roots: Storage (Beta), Respiratory   (Rhizophora), Epiphytic (Vanda). |
| **Course code- P-301**  **Title: PRACTICAL (3.1 & 3.2)** |
| 1. Students will be able to Identify, classify and write morphological notes on the given material/specimens B & C from Gymnosperms. 2. Identify, giving the important characters of identification of the spots/specimen 1 and 2 from Gymnosperms and 3 and 4 from angiosperms. |
| **Semester –IV** |
| **Course code- BOT4.1**  **Title: BIOLOGY AND DIVERSITY OF SEED PLANTS-II** |
| 1. Understand of taxonomy and systematics. 2. Understand role of cytology, chemistry in solving various problems of taxonomy. 3. Learn of Botanical nomenclature helps naming plants. 4. Have a knowledge of various systems of classification of Angiosperms. 5. Helps students to understand diversity of angiosperms by understanding diagnostic features of various families of angiosperms. |
| **Course code- BOT4.2**  **Title: Plant Embryology** |
| 1. To understand how to Flower-a modified shoot, Microsporangium, its wall and dehiscence mechanism. Microsporogenesis, pollen grains and its structure (pollen wall). 2. To understand the Pollen germination (micro gametogenesis), Male gametophyte, Pollen- pistil interaction; self-incompatibility, Pollination: types and agencies. |

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| 1. To understand the Structure of Megasporangium (ovule), its curvatures; Megasporogenesis and Mega gametogenesis, Female gametophyte (mono, bi and tetrapodic), Double fertilization, Endosperm types and its biological importance. 2. To understand Embryogenesis in Dicot and Monocot; Polyembryony, Structure of Dicot and Monocot seed, Fruit types; Dispersal mechanisms in fruits and seeds. |
| **Course code- P-401**  **Title: PRACTICAL (4.1 & 4.2)** |
| 1. Dissect out the globular/heart-shaped embryo from the given material. 2. Identify, giving the important characters of identification of the spots 1, 2 and 3 from embryology. 3. Describe/compare the given flowers A and B in semi-technical language giving V.S. of flowers, T.S. of ovaries, floral diagrams and Floral Formulae. Identify and assign them to   their respective families giving reasons. |
| **Semester –V** |
| **Course code- BOT5.1**  **Title: Plant Physiology** |
| 1. To learn about plant water relations. 2. To make better understanding of concept of photosynthesis in plants. 3. To provide knowledge of various physiological processes including flowering, photoperiodism and senescence. 4. To understand mechanism of action and role of different hormones in plants. |
| **Course code- BOT5.2**  **Title: Plant Ecology** |
| 1. To make students aware about environment and various aspects of environment including ecosystem, community. 2. To understand various adaptations in plants. 3. To make practical understanding of various physiological phenomenon and to identity various Xerophytes and Hydrophytes. |
| **Course code- P501**  **Title: PRACTICAL (5.1&5.2)** |
| 1. Devise an experiment to demonstrate the physiological process. 2. Comment on physiological experiment. 3. Ecological experiment/ecological specimen. |
| **Semester –VI** |
| **Course code- BOT6.1**  **Title: Biochemistry and Plant Biotechnology** |
| 1. To learn basics of Enzymology, Respiration, Nitrogen Metabolism and Lipid Metabolism. 2. To make better understanding of Genetic engineering 3. Identification and naming of plants based on plant parts used. |
| **Course code- BOT6.2**  **Title: Economic Botany** |
| 1. To learn about cultivation and uses of various economically important plants like Cereals, Pulses, Oil Yielding, Fibre Yielding Plants. 2. To study economic botany of various medicinal plants. 3. To study processing of tea and coffee and their uses. |

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| **4.** To learn about biofuels and energy plantation. |
| **Course code- P-601**  **Title: PRACTICAL (6.1&6.2)** |
| 1. Device an experiment to test the carbohydrate/protein/fats/peroxidase activity. Perform it and show it to the examiner. 2. Identify and classify spots1,2,3 & 4 from the point of view of economic important and morphology of the plant part used. |

B.Sc. (Non-Medical) in Physics

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| **Semester –I** |
| **Course Code: PHY-101**  **Title: Mechanics** |
| 1. Understand the role of vectors and coordinate systems in Physics. 2. Explain the conservation of energy, momentum, angular momentum and apply them to basic problems. 3. Write the expression for the moment of inertia about the given axis of symmetry for different uniform mass distributions. 4. Understand the concept of generalised coordinated and solve the problems of linear harmonics oscillator, simple harmonic oscillator and Atwood’s machine. 5. Understand the analogy between translational and rotational dynamics and application of both motions simultaneously in analysing rolling with slipping. |
| **Course code- PHY-102**  **Title: Electricity and Magnetism** |
| 1. Understand the concept of scalars and vectors, vector products, gradient, divergence and curl of vector. 2. Demonstrate gauss law, coulomb’s law for electric field & apply it to system of point charges as well as line, surface & volume distribution of charges. 3. Understand the concept of magnetic induction, magnetic properties of matter. 4. Studying the importance hysteresis curve and loss. 5. Understanding the propagation of electromagnetic wave, studying the maxwells equations, and pointing vector and theorems. |
| **Course code- PHY-103**  **Title: PRACTICAL** |
| In this laboratory course, after learning of how to handle measuring instruments (like screw gauge, vernier callipers, travelling microscope) student shall embark on verifying various principles learnt in theory and measuring moment of inertia of flywheel, elastic constants of materials, viscous properties of liquids, measurement of frequency of AC, self-inductance of coil etc. |
| **Semester –II** |
| **Course code- PHY-201**  **Title: Properties of Matters, Kinetic Theory and Relativity** |

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| 1. Understanding the property of matter i.e., elasticity by studying hook’s law, elastic constant with suitable examples. 2. Learning the speed distribution of gaseous molecules by studying the principle of maxwell distribution law. 3. Understand the concept of mean free path and Brownian motion. 4. Understand the properties of real and ideal gases. And study the gas equation for both the cases. 5. Understand the relativity by knowing the concept of Galilean in variance and conservation laws and Newtonian principle. • Study the length contraction and time dilation concept. |
| **Course code- PHY-202**  **Title: Electro-magnetic Induction and Electronic Devices** |
| 1. Understand the concept of electromagnetic induction. And learn the AC circuit analysis. 2. Basic understanding of semiconductor diodes. P-N junction diodes and Zener diodes. 3. Understanding that how regulated voltages can be achieved using Zener diodes and AC to DC voltage conversion using rectifiers. 4. Study the Transistor and its I-V characteristics and working of NPN and PNP in C-E, C-B and C-C mode |
| **Course code- PHY-203**  **Title: PRACTICAL** |
| In this laboratory course students will learn the practical aspect of theory studies by performing experiments for measurement ‘g’ using Bar pendulum, finding modulus of rigidity by Maxwell’s needle, elastic constant by Searle’s method, also performing the experiment of electricity i.e., measurement of impedance of an AC circuit, low and high  resistance by Carey foster bridge and substitution method etc. |
| **Semester –III** |
| **Course code- PHY-301**  **Title: Computer Programming Thermodynamics I** |
| 1. Understand the basics of programming and flowchart. Learning the binary representation. 2. Study the FORTRAN basics and shirt programmes using executable and non-executable statements, looping using DO and GO TO statements. 3. Understand the law of thermodynamics and study the practical example as Carnot heat engine and also understanding the entropy and how the reals gases are liquified using Joule -Thomson effects. 4. Understand the phase transition of state of matter, Maxwells equation and different thermodynamics function. |
| **Course code- PHY-302**  **Title: Optics- I** |
| 1. Understanding the concept of Fourier analysis and Fourier transformations to evaluate the speed of transverse and longitudinal waves. 2. Study the geometrical optics, lens and its aberrations and its remedies. 3. Study the introduction to wave optics by understanding the concept of interferences, wavefronts, phase change due to reflection etc. |
| **Course code- PHY-303**  **Title: PRACTICAL** |

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| In this laboratory course students will learn to find the refractive index and dispersive power of a prism, resolving power of telescope, I-V characteristics of transistors in C-E and C-B mode, voltage doubler and Tripler circuit and some basic FORTRAN program like sum of finite series, maximum or minimum and range of a set of numbers etc. |
| **Semester –IV** |
| **Course code- PHY-401**  **Title: Statistical Mechanics** |
| 1. Understand the basics of probability, phase space, microstate and microstates. 2. Study the postulates of statistical physics, Boltzmann’s distribution law and Bose- Einstein Statistics. 3. Study the Fermi-Dirac Statistics, zero-point energy and specific heat od metals and non- metals. |
| **Course code- PHY-402**  **Title: Optics- II** |
| 1. Study the advance wave optics, Newtons rings and Fresnel diffractions. 2. Understand the one, two and N-slit diffraction by Fraunhofer diffraction and Diffraction grating and its resolving power. 3. Understand the polarization, malus law, and analysis of polarised light. |
| **Course code- PHY-403**  **Title: PRACTICAL** |
| In this laboratory course students will find the wavelength by Newtons rings, and diffraction grating, Frequency response of RC coupled amplifier, series and parallel circuits, and some more advance FORTRAN programs like roots of quadratic equation, evaluating any function  etc. |
| **Semester –V** |
| **Course code- PHY-501**  **Title: Solid State Physics** |
| 1. Understanding the classification of solid state of matter on the basis of crystal structure, lattices, unit cells etc. 2. Study the concept of X-Ray diffraction and Braggs law to determine the structure of solids and their constituents. 3. Understanding the concept of reciprocal lattices and specific heats and its different theories |
| **Course code- PHY-502**  **Title: Quantum Mechanics** |
| 1. Comprehend the failure of classical EM theory and need of quantum theory. 2. Study the basics Quantum theory formulation i.e., wave particle duality and Heisenberg uncertainty principle. 3. Derivation of Schrodinger wave equation and its solution for harmonic oscillator. 4. Solution of Schrodinger wave equation for one- and two-dimensional potential barrier. |
| **Course code- PHY-503**  **Title: PRACTICAL** |
| **4.** In this lab students will study the GM counter, Hartley oscillator, transistor as amplifier in C-B and C-E configuration, and looping programs in Fortran language |
| **Semester –VI** |

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| **Course code- PHY-601**  **Title: Atomic, Molecular and Laser Physics** |
| 1. Understand the atomic particles and molecules world and their interactions by studying the spin orbit interactions and LS coupling. 2. Study the Raman, Zeeman and Panchen back effects. 3. Understanding the concepts of LASER, and study the working of He-Ne laser and RUBY laser and application of laser in medicine and industry. |
| **Course code- PHY-602**  **Title: Nuclear Physics** |
| 1. Elementary introduction of nuclear physics with emphasis on Nuclear Structure, Nuclear Forces, Nuclear Decays and Fission and Fusion. 2. Study the fundamental aspects of accelerators and detectors. |
| **Course code- PHY-603**  **Title: PRACTICAL (6.1&6.2)** |
| In this lab students measure the band gap using fore probe method, study hall-effect, e/m by Thomson method, Fortran programmes for matrices, Simpson’s rule, average of numbers. |

B.Sc. with Computer Science as a Subject

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| **Semester –I** |
| **Course Code: 1.1**  **Title: Computer Fundamentals & MS-Office** |
| 1. Know the basics of computer system, number systems, inter conversion of numbers, coding systems, computer codes. 2. Understand the different type of input/output devices, memory systems and video standards. 3. Be familiar with software, its types and logic development tools-algorithm, flowcharts 116. 4. Get practical learning of MS-Word, Excel and PowerPoint in office automation tools. 5. Differentiate various types of hardware and software and areas of applications. |
| **Course code- 1.2**  **Title: Computer Architecture** |
| 1. Learn about basic building blocks and circuit design. 2. Understand arithmetic circuits and combinational circuits. 3. Know about sequential circuits. 4. Familiarize with register transfer and micro-operations. 5. Know about the computer organization and design. |
| **Course code- 1.3**  **Title: PRACTICAL Lab Work (Computer Fundamentals and MS-Office)** |
| 1. Create MS-Word documents, designing these documents with bullets, numbering and other Word Art options in MS-Word. 2. Design MS-Excel sheets using different styles of tables, charts, formulas, functions like mathematical and logical. 3. Create PowerPoint slides using single and multiple slides, animation and sound effects in |

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| it.  **4.** Design a file using different tools of MS-Office completely. |
| **Semester –II** |
| **Course code- 2.1**  **Title: Programming in 'C'** |
| 1. Understand the basic concepts of programming and development of efficient programs 2. Understand the concept of various data types, symbols, words, operators and expressions used in language. 3. Learn about decision making, branching and looping statements. 4. Understand the concept of built-in functions, user defined functions and different techniques used. 5. Differentiate between arrays and pointers, know about string handling. 6. Learn about derived data types and file handling. |
| **Course code- 2.2**  **Title: Structured Systems Analysis and Design** |
| 1. Learn characteristics of system and its types 117. 2. Understand structure analysis and its tools. 3. Know about the feasibility study and cost-benefit analysis. 4. Understand system design and form design methodology. 5. Learn the concept of system testing and quality assurance goals. 6. Understand system implementation, evaluation, maintenance and documentation. |
| **Course code- 2.3**  **Title: Practical & Viva-voce (Based on Paper 1.1 & 2.1)** |
| 1. Implement the basic concept of C language. 2. Implement the different operator in C program. 3. Implement the various Constructs using C language. 4. Create programs using Arrays, Pointers and String operations in C language. 5. Implement different file handling functions in C programs. |
| **Semester –III** |
| **Course code- 3.1**  **Title: Data Communication and Networking** |
| 1. Understand the basic concept of networking, network topologies and OSI and TCP/IP model. 2. Understand Analog and Digital communication data transmission and its types. Knowledge of transmission media, switching and multiplexing concepts. 3. Describe communication satellite, dialup networking and Analog modem concept. 4. Learn about data link layer responsibilities and their implementation like media access control protocol. 5. Understand the concept datagram, and virtual circuit Routing algorithm and its types and inter networking. 6. Learn about the elements of transport layer. Understand the different protocols like internet transport protocol, UDP, real time transport protocol also learns about application layer, domain name system, E-mail, [www.](http://www/) |
| **Course code- 3.2** |

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| **Title: Object-Oriented Design and C++** |
| 1. Learn about object-oriented concept and object modelling technique. 2. Learn about syntax, structure and concepts of C++ data types and classes and objects and also explain data member and member function. 3. Implement the concept of constructer and destructor. Explain dynamic memory allocation console I/O formatted and unformatted I/O. 4. Understand the concept of inheritance and polymorphism and classify the difference between overloading and overriding 118. 5. Understand the concept of virtual function and virtual class. |
| **Course code- 3.3**  **Title: PRACTICAL** |
| 1. Implement the basic concepts like creation of Class, Objects, Member functions. 2. Implement concepts like Static data members, Inline functions, Function overloading, Friend functions, etc. 3. Create the program implementing the concepts of Construction, Destructors and this Pointer. 4. Implement the concepts of Formatted and unformatted Input/Output functions. 5. Create the program implementing the concepts of Inheritance and Polymorphism. |
| **Semester –IV** |
| **Course code- 4.1**  **Title: Data Structures with C/C++** |
| 1. Understand data structure and its essence. 2. Learn the array operations. 3. Implement stack and queue. 4. Understand linked list and tree structures and their applications. 5. Learn graph data structure and its implementation. 6. Implement various sorting and searching algorithms. |
| **Course code- 4.2**  **Title: Operating Systems** |
| 1. Understand about different types of operating system. 2. Know about process scheduling and algorithm of scheduling. Deadlock prevention and avoidance concept also be cleared by the students. 3. Describe different memory management technique. 4. Know about the file management concept and its classification and also be familiar with directory structure and file protection mechanism. |
| **Course code- 4.3**  **Title: Practical & Viva-voce (Based on Paper - 3.2 & 4.1)** |
| 1. Implement the various operations applied on array. 2. Create the program implementing various types of searching and sorting. 3. Implement the program having stack operations. 4. Create the program implementing various Queue operations 119. 5. Implement various operations of Linked-List. |
| **Semester –V** |
| **Course code- 5.1**  **Title: Database Management System** |
| **1.** Understand the concepts of file-based approach and database approach. |

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| 1. Describe the database system architecture and various data models. 2. Describe the entity-relationship model, conceptual design using E-R diagram. 3. Define and describe the various normal forms of normalization and various types of dependencies applicable on various normal forms. 4. Define, describe and implement the various SQL queries. |
| **Course code- 5.2**  **Title: Introduction to Internet & Web Technologies** |
| 1. Understand internet, internet protocols and internet tools. 2. Learn about internet security problems and solutions. 3. Know about search engines and how to surf the net. 4. Create and publish a web page via HTML language using text formatting font controls and list. 5. Implement hyperlink on web page. 6. Understand how to create table and implement graphics in HTML programs. |
| **Course code- 5.3**  **Title: Practical Lab Work (Based on paper 5.1 & 5.2)** |
| 1. Implement interactive web page(s) using HTML. 2. Design a responsive web page via using FORM. 3. Create a real-life application with constraints and keys using SQL. 4. Retrieve any type of information from a database by formulating queries in SQL. |
| **Semester –VI** |
| **Course code- 6.1**  **Title: Visual Basic Programming** |
| 1. Understand the overview of programming languages (Visual and Non-Visual). 2. Understand VB application environment and event driven programming. 3. Implement selective structures and repetitive structures in VB program using different control statements. 4. Develop program using procedures, subroutines and functions 120. 5. Develop database programs using DAO and ADO. |
| **Course code- 6.2**  **Title: Software Engineering** |
| 1. Describe various software life cycle models and goals and principles of software engineering. 2. Understand various software requirement analysis techniques. 3. Describe the various components of SRS document and their relevance. 4. Be familiar with various software project management and configuration management techniques. 5. Know about the various software design types and principles. |
| **Course code- 6.3**  **Title: PRACTICAL (6.1&6.2)** |
| 1. Demonstrate knowledge of programming terminology and how applied using Visual Basic (e.g., variables, selection statements, repetition statements, etc.). 2. Develop a Graphical User Interface (GUI) based on problem description. 3. Develop and debug applications using Visual Basic that runs under Windows operating system. 4. Develop programs that retrieve input from a file as real-life application via using FORMs |

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| and Database controls. |

स्नातक, हिन्दी अहिवार्य

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| **Semester –I** |
| **Course Code: Hi01**  **Title: हिन्दी अहिवार्य** |
| 1. भक्ति कालीि कहवर् ों की कहवताओों की हवहवध प्रवृहिर् ों क कहवता द्वारा समझािा।  2.भक्ति कालीि कहवर् ों की हवहवध पद्य हवधाओों का आल चिात्मक अध्यर्ि ताहक उि के माध्यम से समाज के अोंतसंबोंध की जािकारी ि सके ।  3.जि जीवि में गिरी पैठ बिािे वाले व कहव कबीर की बािी की हिगगयण साहित्य परों परा क जाििा।  4.समन्य वादी कहव तगलसीदास के साहित्य क राम भक्ति काव्य के सोंदभय में समझिा।  5.भक्ति श्ृोंगार और वात्सल्य रस के हचत्रण में बेज ड़ सूरदास क कृ ष्ण भक्ति के माध्यम से समझिा।  6.भक्ति कालीि कृ ष्ण काव्य धारा की श्ेष्ठ कवहर्त्री मीराबाई के प्रेम साधिा व भक्ति क समझिा।  7.रीहतहसद्ध काव्य धारा के श्ेष्ठ कहव हबिारी का अिगपम श्ृोंगार वणयि समझिा।  8.रीहतमगि काव्यधारा के मिाि कहव घिािोंद के प्रेम की गगढ अोंतदयशा और हवरि वणयि क समझिा।  9.कहव रसखाि के काव्य के स्व छों द प्रेम अिगभूहत और भक्ति भाविा क समझिा।  10.सम्वत् 1050 से 1375 तक रहचत हिोंदी साहित्य इहतिास की हवहवध सपि ों के माध्यम से जािकारी।  11.काव्यशास्त्र पर आधाररत हवषर् काव्य के तत्व, गगण, रस, अलोंकार, छों द ,शब्द शक्ति आहद की जािकारी। |
| **Semester –II** |
| **Course code- Hi02**  **Title: हिन्दी अहिवार्य** |
| 1.आधगहिक काल में रहचत ध्रगवस्वाहमिी िाटक की हवहवध प्रवृहिर् ों क समझिा।  2.जर्शोंकर प्रसाद द्वारा रहचत ध्रगवस्वाहमिी िाटक का आल चिात्मक अध्यर्ि ताहक िाटक के माध्यम से इहतिास में कल्पिा का सोंर् जि कर इहतिास क वतयमाि से ज ड़िे का प्रर्ास हकर्ा जाए। 3.लेखक िे इस िाटक में िारी के अक्तित्व,अहधकार और पगिर लगि की समस्या क उठार्ा िै तथा राष्ट्र ीर्ता के साथ साथी हवश्व प्रेम का सोंदे श हदर्ा िै।  4.र्ि िाटक पगरुष सिात्मक समाज के श षण के प्रहत िारी का हवद्र ि िै।  5.सोंवत 1375 से सोंवत 1700 तक रहचत हिोंदी साहित्य इहतिास की हवहवध स पाि ों के माध्यम से जािकारी।  6.व्यविाररक व्याकरण =भाषा की पररभाषा, हवहवध रूप, हिोंदी वणयमाला, हिोंदी वतयिी ,मगिावरे और ल क क्तिर्ाों की जािकारी। |
| **Semester –III** |
| **Course code- Hi03**  **Title: हिन्दी अहिवार्य** |
| 1. आधगहिक हिोंदी कहवता के प्रमगख कहवर् ों के साहित्य पररचर् एवों प्रवृहिर् ों से छात्र ों क अवगत करािा।  2. प्रमगख कहवर् ों की प्रमगख कहवताओों का अध्यर्ि करािा। |

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| 3. आधगहिक काल के प्रमगख कहवर् ों की कहवताओों का भावपक्ष एवों कला पक्ष की जािकारी प्राप्त करािा।  4. प्रसाद,हिराला,पोंत आहद छार्ावादी कहवर् ों की कहवताओों के माध्यम से छार्ावाद की प्रवृहिर् ों से पररहचत करािा।  5. रीहतकाल  सि 1643 ईस्वी से लेकर 1843 ईसवी तक रीहतकाल की सामान्य पररक्तथथहतर् ,ों प्रवृहिर् ों से अवगत करािा।  6. रीहतकाल का वगीकरण करते हुए रीहत हसद्ध, रीहतबद्ध एवों रीहतमगि काव्य धारा के प्रमगख कहवर् ों की जािकारी दे िा।  7. कों प्यूटर के सामान्य पररचर् वतयमाि सोंदभय में इसका मित्व, उपर् हगता की जािकारी देिा।  **7.** ई-मेल,आोंकड़ा सोंसाधि,अिगवाद प्रहिर्ा के माध्यम से छात्राओों के ज्ञाि में वृक्तद्ध करािा। |
| **Semester –IV** |
| **Course code- Hi04**  **Title: हिन्दी अहिवार्य** |
| 1. हिोंदी कथा कमय के अोंतगयत हवहभन्न हिधायररत किािीकार ों के साहिक्तत्यक पररचर्, हिधायररत किाहिर् ों के विग पक्ष तथा कला पक्ष की जािकारी प्रदाि करिा।  2. हिोंदी साहित्य के आधगहिक काल की हवहभन्न पररक्तथथहतर्ाों से अवगत करािा।  3. हिोंदी की हवहभन्न गद्य हवधाओों के अोंतगयत जैसे उपन्यास,किािी, िाटक,हिबोंध के उद्भव और हवकास कमय की जािकारी प्रदाि करिा।  4. पाररभाहषक शब्दावली के स्वरूप,मित्व एवों गगण ों के माध्यम से ज्ञाि हवज्ञाि के शब्द ों की सगहिहित पररभाषा का ज्ञाि करवािा। |
| **Semester –V** |
| **Course code- Hi05**  **Title: हिन्दी अहिवार्य** |
| 1. हिोंदी साहित्य के इहतिास आधगहिक काल से पररहचत करािा  2. सोंक्षेपण व पल्लवि क शल से पररहचत करािा  3. समकालीि साहित्य का ज्ञाि करािा। |
| **Semester –VI** |
| **Course code- Hi06**  **Title: हिन्दी अहिवार्य** |
| समकालीि गद्य साहित्य से पररहचत करािा  2. िररर्ाणवी साहित्य से पररहचत करािा  3. पत्र लेखि कौशल हवकहसत करिा। |

स्नातक, हिन्दी ऐक्तिक

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| **Semester –I** |
| **Course Code: EH01 Title: हिन्दी ऐच्छिक** |

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| 1.कग रुक्षेत्र प्रबोंध काव्य के माध्यम से र्गद्ध की हवभीहषका और भर्ोंकर पररणाम ों से अवगत कराते हुए हवश्व शाोंहत का सोंदे श दे िा।  2.भीष्म साििी के िािूश िाटक द्वारा हवद्याहथयर् ों में सृजिेिा का भाव उत्पन्न करिा।  3.हिोंदी साहित्य लेखि की परों परा से हवद्याहथयर् ों क अवगत करािा  4.हिोंदी साहित्य के इहतिास के अोंतगयत िमबद्ध रूप से हवद्याहथयर् ों क आहदकालीि साहित्य से अवगत करािा  5.रास काव्य परों परा के अोंतगयत हवहभन्न रास ग्रोंथ ों के हवषर् में जािकारी प्राप्त करिा।  6.हवद्यापहत व अमीर खगसर के साहिक्तत्यक अवदाि से अवगत करािा। |
| **Semester –II** |
| **Course code- EH02**  **Title: हिन्दी ऐच्छिक** |
| 1.भक्ति कालीि काव्य जगत के मिाि कहवर् ों कबीरदास, सूरदास, जार्सी, तगलसीदास व मीराबाई के काव्य के माध्यम से अिगभूहत,अहभव्यक्ति और वैचाररक उत्कषय क आत्मसात करिा एवों जाििा। 2.कबीर दास के समाज सगधारक रूप से अवगत कराते हुए समाज की सगप्त चेतिा क जगािे का प्रर्ास करिा।  3.सूफी काव्य धारा के प्रमगख कहव महलक म िम्मद जार्सी के काव्य के माध्यम से लौहकक प्रेम के माध्यम से अलौहकक प्रेम की अिगभूहत क आत्मसात करािा।  4.सूरदास के काव्य में कृ ष्ण भक्ति के माध्यम से वात्सल्य एवों श्ृोंगार रस के हवहवध पक्ष ों की जािकारी प्राप्त करिा।  5.रीहतमगि काव्यधारा के मिाि कहव घिािोंद के काव्य के माध्यम से प्रेम के उदाि रूप का हिरूपण।  6.मगोंशी प्रेमचोंद द्वारा रहचत हिमयला उपन्यास के माध्यम से समाज में व्याप्त सामाहजक बगराईर् ों र्था दिेज प्रथा व उससे उत्पन्न अिमेल हववाि जैसी समस्या के दगष्पररणाम ों से अवगत करािा।  7.हिमयला उपन्यास के माध्यम से सामाहजक बगराइर् ों के हवरुद्ध आवाज उठािे के हलए जागृत करिा।  8.हिोंदी साहित्य के इहतिास के अोंतगयत िमबद्ध रूप से हवद्याहथयर् ों क भक्तिकालीि काव्यधाराओों से अवगत करािा।  9.हिोंदी साहित्य के स्वणय र्गग से अवगि कराते हुए हवद्याहथयर् ों में भक्ति भाविा का हवकास करिा तृतीर् सत्र |
| **Semester –III** |
| **Course code- EH03**  **Title: हिन्दी ऐच्छिक** |
| 1 . छार्ावादी कहवर् ों के माध्यम से उिकी रचिाओों की भावगत और हशल्पगत जािकारी प्राप्त करिा।  2 प्रगहतवादी कहवर् ों के माध्यम से उिकी रचिाओों द्वारा प्रगहतवादी चेतिा क समझिा।  3 हिोंदी साहित्य के इहतिास के अोंतगयत रीहतकाल क समझिा।  4 किािी एकादशी मे सोंकहलत किाहिर् ों के माध्यम से सामाहजक चेतिा क समझिा। |
| **Semester –IV** |
| **Course code- EH04**  **Title: हिन्दी ऐच्छिक** |

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| 1 िर िम दास द्वारा रहचत सगदामा चररत के माध्यम से कृ ष्ण व सगदामा की हमत्रता की जािकारी प्राप्त करिा।  2 सगदामा चररत का र्गगीि सोंदभय समझिा।  3 श्ेष्ठ हिबोंध िामक पाठ्य पगिक में सोंकहलत हिबोंध ों के प्रहतपाद्य क समझिा।  4 हिोंदी साहित्य का आधगहिक काल: कहवता से सोंबोंहधत आल चिात्मक प्रश् ों का ज्ञाि प्राप्त करिा। |
| **Semester –V** |
| **Course code- EH05**  **Title: हिन्दी ऐच्छिक** |
| 1. समकालीि काव्य साहित्य से पररहचत करािा  2. हिोंदी साहित्य इहतिास आधगहिक गद्य से पररहचत करािा |
| **Semester –VI** |
| **Course code- EH06**  **Title: हिन्दी ऐच्छिक** |
| िव्यतर गद्य हवधाए व साहित्यल चि का ब ध करािा |

BBA (Bachelor of Business Administration)

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| **Semester –I** |
| **Course Code: BBAN101**  **Title: Business Organisation** |
| 1. Provides with the logic and working of organizations and outlines the major function of business organisation. 2. Enables students to acquire and exhibit knowledge skills and abilities needed to successfully manage the organization with different environmental situations. 3. Enables students master their skills and ideas to establish a strong foundation of confidence required to become an entrepreneur. 4. Prepares students to face the hindrances preparation of business plans covering aspects like finance, marketing, sales etc. |
| **Course code- BBAN103**  **Title: Financial Accounting** |
| 1. To give an insight to various basic aspects of accounting. 2. Enables them to understand accounting concepts, tools and techniques influencing business organizations. 3. To enable them to understand the single-entry system, accounting procedure maintenance of subsidiary books and final accounts. |
| **Course code- BBAN105**  **Title: Business Communication** |
| 1. Relate to the various concepts and processes of managerial communication. 2. Identify the gap between current level of communication skills and the expected industry standards. 3. Develop essential communication skills required for managing a business. |
| **Semester –II** |

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| **Course code- BBAN201**  **Title: Principles of Management** |
| 1. Demonstrates comprehensive and accurate knowledge and understanding of various areas of management. 2. Exhibit knowledge and skill required to administer the affairs of the management. 3. Familiarize students with concepts and principles of management. |
| **Course code- BBAN203**  **Title: Company Accounts** |
| 1. To educate students about the companies and working of the companies, preparation of final accounts of companies as per Companies Act 2013 and evaluating the company’s performance. 2. To impart knowledge about the valuation method of shares and goodwill and measurement of performance of companies, work with profit prior to acquisition and post-acquisition of shares by holding company and preparation of consolidated balance sheet in the books of holding company. |
| **Course code- BBAN205**  **Title: Organizational Behaviour** |
| 1. Helps in understanding the psychological aspect of human resources working in an organization and offers knowledge on organizational behaviour, organizational change and dynamism of groups 2. Enables students to understand the applicability of the concept of organizational behaviour to analyse the behaviour of people in the organization. 3. Helps them to analyse the complexities associated with management of the group behaviour in the organization. 4. To enable students to understand the need for change and development. 5. To comprehend students about the organizational environment for creativity and innovation. |
| **Course code- BBAN206**  **Title: Business Statistics** |
| 1. To know the basic mathematical calculations. 2. To give knowledge of quantitative methods and its applications in commercial situations for decision making. 3. To enable students to understand averages, correlation and regression to analyse data. 4. To provide basic statistical knowledge and their application to the business decisions. 5. Use of dispersion, skewness, index numbers in realistic situations. |
| **Semester –III** |
| **Course code- BBAN301**  **Title: Cost and Management Accounting** |
| 1. Acquaint students with various cost and management concepts and importance of controlling overall cost which is a vital aspect to achieve the objectives of modern business. 2. Enables students to understand various methods of material issues, labour remuneration, allocation and apportionment of overheads and also preparation of reconciliation statements. 3. Acquaints students with the management accounting concepts, tools and techniques |

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| influencing business organizations.  **4.** Helps in evaluating the ideas and manage the ambiguity in managerial and organizational issues in a business organization. |
| **Course code- BBAN302**  **Title: Marketing Management** |
| 1. Enables students to understand the concept of marketing and the recent innovations in marketing. 2. Helps identify the marketing dynamics and formulating marketing strategies and its implementation. |
| **Course code- BBAN303**  **Title: Capital Markets** |
| 1. Provides knowledge about various investment avenues available and equips student’s skills in analysing the avenues to make investments decisions. 2. About portfolio management strategies to achieve financial objectives. 3. Students get familiarized with recent trends in financial services and its operations 4. To give the students a conceptual framework of financial markets and its Regulatory Authority – SEBI 5. Familiarize the students about Regulatory Authorities and Monetary Policy tools used by them to balance the economy. |
| **Course code- BBAN305**  **Title: Environmental Studies** |
| Provides basic awareness on the environment and Environmental Protection Act, 1986 and its  allied fields and also helps to motivate students to find out unique solutions for environmental problems and create awareness. |
| **Course code- BBAN306**  **Title: Disaster Management** |
| 1. Identify the concepts of disaster and its impact on people and society. 2. Examine the cause of natural and manmade disaster. 3. Debate on the components of the disaster relief and vulnerability profile of India. |
| **Semester –IV** |
| **Course code- BBAN401**  **Title: Financial Management** |
| 1. It helps students understand the basic concepts of Financial Management in decision making related to business. 2. Provides insight on time value of money and various managerial decisions such as financial, investment and dividend decisions and importance of working capital management. |
| **Course code- BBAN402**  **Title: Human Resource Management** |
| 1. To make students understand the concepts of Personnel Management. 2. Imparts knowledge on various aspects of Human Resource Management and its relevance in day-to-day business activities. |
| **Course code- BBAN403** |

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| **Title: Business Research Methods** |
| 1. Gives an insight on the process of research, various tools and tools of research. 2. Introduces the basics of business research and impact of research in business. |
| **Course code- BBAN404**  **Title: Business Law** |
| 1. Gives an insight to students on several business laws and regulations. 2. Makes them understand the significance of laws for smooth conduct of business and implementation as well as for a better economy. |
| **Course code- BBAN406**  **Title: Human Rights and Values** |
| 1. Familiarizes students with basic knowledge of Constitution of India. 2. Helps understand the various Human Rights and their implications in day-to-day life and spread awareness of the same. |
| **Semester –V** |
| **Course code- BBAN501**  **Title: Production and Materials Management** |
| 1. Familiarizes students with the process of production to be carried out in a business so that there is which satisfies customers and which helps to increase the goodwill of the organization. 2. Assists in analysis with the selection of the plant location, layout, selection of process, controlling production process and producing quality products. |
| **Course code- BBAN502**  **Title: Company Law** |
| 1. To give insight on Memorandum of Association, Article of Association, Prospectus etc. 2. Describe the concept of joint stock companies and joint stock companies will be able to distinguish them from other partnerships and companies. 3. Explains the liquidation of a company. |
| **Course code- BBAN503**  **Title: Indian Business Environment** |
| 1. Know and analyse different business environments. 2. Evaluate the major factors which affect the business. 3. Understand and analyse various political, technological and economic environment in the business. |
| **Course code- BBAN505**  **Title: Presentation Skills and Personality development** |
| 1. To enable students to develop soft skills required for the current business world. 2. To improve confidence in students to face interviews by making them learn various techniques in public speaking. 3. Aims to improve the employability skills of students and enhance the quality-of-life style of students contributing towards improving their personality. |
| **Course code- BBAN507**  **Title: Summer Training Report Learn job-relevant skills** |
| **1.** Utilize spare time. |

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| 1. Practical Training. 2. Real-time work/projects to learn more scientifically. 3. Certificate from a reputed Organization helps add to your CV. |
| **Semester –VI** |
| **Course code- BBAN601**  **Title: Income Tax** |
| 1. Introduces students to the basic concepts of Income Tax like Assessment year, previous year, canons of taxation and Gross Total Income 2. Briefs on computation of income from salary, Income from house property, profits and gains from business and profession and computation of total income and various deductions and exemptions. |
| **Course code- BBAN603**  **Title: Foundations of International Business** |
| 1. Provides knowledge on International Business and also gives an insight on strategies related to entry, administration in the international environment. 2. Expose students to Modes of entry into international business, Globalization, International Marketing Intelligence and EXIM trade 3. To enable students to understand FDI flows and risks associated with foreign exchange. |
| **Course code- BBAN604**  **Title: CONSUMER PROTECTION** |
| 1. Students will have a comprehensive understanding about the existing law on consumer protection in India. 2. Students will be conversant with major international instruments on consumer protection. 3. Students will be aware of the basic procedures for handling consumer dispute. 4. Students will be able to appreciate the emerging questions and policy issues in consumer law for future research. |
| **Course code- BBAN605**  **Title: E- Commerce** |
| 1. Helps to expose the students to electronic modes of commercial operations. 2. Provides insights on concepts of E-business, security for E-business, E-payment methods, technologies and Cyber Laws in e-business for marketing operations. |
| **Course code-**  **Title: E- Commerce LAB** |
| This lab is based on paper and will cover creating web pages using HTML tags, Elements, basic and advanced text formatting, designing of web pages, document layout, working with frames , forms and controls and other relevant things. |
| **Course code- BBAN606**  **Title: Project report** |
| 1. The objectives of a Project Report: 2. Integrate theory and practice. 3. Assess interests and abilities in their field of report study. 4. Learn to appreciate work and its function in the economy |
| **Course code- Comprehensive viva voce**  **Title: Project report** |

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| 1. Demonstrate knowledge in the program domain. 2. Present his views cogently and precisely. 3. Exhibit professional etiquette suitable for career progression. |

BCA (Bachelor of Computer Application)

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| **Semester –I** |
| **Course Code: BCA-101**  **Title: COMPUTER & PROGRAMMING FUNDAMENTALS** |
| 1. Identify the components of computer and assemble the parts of computer. 2. Work in different OS environments and to classify various types of viruses and antivirus software. 3. Classify develop logics for the solution of programmes. 4. Classify and describe various types of networks. 5. Understand various elementary concepts of computer. |
| **Course code- BCA-102**  **Title: PC SOFTWARE** |
| 1. Understand the concept of operating system, its types and their features practically. 2. Get practical learning on MS-Word and its general and advanced features. 3. Get practical learning on MS-Excel, its different features as worksheet, database management and chart creation. 4. Get technical learning on PowerPoint presentations using different features as animation, graphic effects, sound effects, time effects and layering objects. 5. Acquaint themselves with office automation software and their use according to application areas. |
| **Course code- BCA-103**  **Title: MATHEMATICS** |
| 1. Know the basics of set theory and its applications. 2. Understand the concept of matrices and determinants. 3. Learn about relations and its properties. 4. Study different types of functions. 5. Know about limits and continuity and how to compute them. 6. Understand the differentiation and to find the derivations of different types of functions. 7. Learn about integrals, their properties and how to evaluate them. |
| **Course code- BCA-104**  **Title: Logical Organization of Computer-I** |
| 1. Learn about number system including binary arithmetic. 2. Know about character codes and their representations and how to detect and correct errors 172. 3. Explain Boolean Algebra and know how to simplify the Boolean functions via K-map. 4. Implement basic and universal gates in circuits and also know the use of gates in multilevel NAND and NOR circuits. 5. Understand combinational circuits and their application areas. 6. Familiarize with addressing modes. |
| **Course code- BCA-105** |

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| **Title: Practical Software Lab** |
| 1. Create MS-Word documents, designing these documents with bullets, numbering and other Word Art options in MS-Word. 2. Design MS-Excel sheets using different styles of tables, charts, formulas, functions (Mathematics, Logical). 3. Create PowerPoint slides using single and multiple slides, animation and sound effects in it. 4. Design a file using tools of MS-Office completely. |
| **Semester –II** |
| **Course code- BCA-106**  **Title: 'C' Programming** |
| 1. Understand the different types of symbols, words, syntax, structure and concepts of 'C' language. 2. Learn about decision making, branching and looping statement and their implementation. 3. Implement built-in functions, user defined functions and different programming techniques of 'C' language. 4. Get practical learning of arrays, pointers, storage classes. 5. Design/develop algorithms, flow charts to help development of efficient programmes. |
| **Course code- BCA-107**  **Title: LOGICAL ORGANIZATION OF COMPUTER-II** |
| 1. Understand the concept of sequential circuits. 2. Design the register and counters via flip flop. 3. Know about the memory and I/O devices. 4. Know the role of instructions in computer architecture their cycle, set selection and format. 5. Lay emphasis on the importance of interrupt structure. |
| **Course code- BCA-108**  **Title: MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE** |
| 1. Understand about the measures of central tendency and measures of dispersion. 2. Get familiar with algorithms, merits and demerits. 3. Understand graphs, subgraphs, connected and disconnected graphs. 4. Differentiate between Eulerian and Hamiltonian graphs. 5. Learn to apply tree and graph algorithms to solve problem. 6. Learn about Recursion and Recurrence relation. 7. Know about PMI, GCD and Fibonacci nos. 8. Understand congruences and equivalence relations. |
| **Course code- BCA-109**  **Title: Structured Systems Analysis and Design** |
| 1. Learn about system, SDLC, system planning and initial investigation, fact-finding and its techniques. 2. Define - structured analysis, its tools, feasibility study in detail and also learn about cost and benefit analysis with its final action. 3. Understand about system design, design methodologies, Input/Output and form design with their classification, requirements, objectives, types and layout considerations. 4. Know about system testing, testing techniques, test plan and also understand about the system implementation, evaluation and maintenance with their types. |

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| **Course code- BCA-110**  **Title: Practical- Software lab Based on paper BCA-106, C Programming** |
| 1. Implement the basic functions using 'C' . 2. Understand the concept of operators. 3. Analyse and understand different constructs in 'C'. 4. Define various formatted/unformatted I/O functions using 'C’. 5. Differentiate between the concepts of arrays and string. |
| **Semester –III** |
| **Course code- BCA-201**  **Title: Introduction to Operating System** |
| 1. Understand the need of operating system and define types of operating systems. 2. Describe and define process, threads and interposes communication 174. 3. Evaluate and analyse various scheduling algorithms, identify deadlocks and describe the methods of handling deadlocks. 4. Know and differentiate between physical and logical address, define swapping and various memory allocation technique, understand the concept of virtual memory and thrashing. 5. Understand file management, structure and allocation method. 6. Define and describe various disk scheduling algorithms. |
| **Course code- BCA – 202**  **Title: DATA STRUCTURES – I** |
| 1. Understand the basic concepts of data structure like types, operations, applications, etc. 2. Acquire knowledge about how to describe and implement arrays and linked list. 3. Define, describe and implement stack and queue. 4. Understand the concepts related to tree and graphs. |
| **Course code- BCA – 203**  **Title: INTRODUCTION TO DATABASE SYSTEM** |
| 1. Know about the basic concepts of database and also define various functions, components, advantages and disadvantages of DBMS. 2. Learn about database system architecture, data independence and data models. 3. Know about E-R model with practice of daily practical examples, relational data structures, database relations and its properties. 4. Give the knowledge about relational algebra and relational calculus, and various normal forms of normalization technique in database. 5. Give practical approach of basic commands of SQL, the query processing and query optimization. |
| **Course code- BCA-204**  **Title: COMMUNICATION SKILLS (ENGLISH)** |
| 1. Demonstrate critical and innovative thinking on various issues. 2. Display competence in written and oral communication. 3. Apply communication theories and learn efficiency in language expression 4. Respond effectively to cultural communication differences. 5. Demonstrate positive group communication exchanges. |
| **Course code- 1. BCA-205** |

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| **Title: PRACTICAL BASED ON PAPER BCA-202 & 203 USING C LANGUAGE AND SQL.** |
| 1. Implement the various operations on string and arrays. 2. Understand the concept of Recursion. 3. Implement the operations of stock, queue and link list. 4. Analyse and implement DDL and DML, DCL Commands. 5. Implement constraints on tables with different types of key link (Primary, Unique and Not Null). |
| **Semester –IV** |
| **Course code- BCA – 206**  **Title: WEB DESIGNING** |
| 1. Learn Web designing basic terms like web browser, web server, http, TCP/IP and search engine and also understand how these terms are used. 2. Learn about the basic steps to create website, and add image, picture, link, background, etc. 3. Understand the language HTML, how HTML language tags are used, and how these tags are helpful in making website. 4. Define HTML list, table and forms, the forms with menu working radio button, check box, text box, etc. 5. Describe basic knowledge of DHTML JSSS and CSSP. |
| **Course code- BCA – 207**  **Title DATA STRUCTURE – II** |
| 1. Understand the concept of trees and various types of trees. 2. Learn to identify shortest path for Warshall's and Dijkstra algorithm. 3. Implement various sorting and searching algorithms. 4. Classify various physical storage devices and files. 5. Learn Hashing functions and collision resolution methods. |
| **Course code- BCA-208**  **Title: Object Oriented Programming Using C++** |
| 1. Differentiate between procedural oriented programming and object-oriented programming. 2. Learn about syntax, structure and concepts of C++ 176. 3. Implement the concept of various access specified in programmes and describe the various operators used in the language. 4. Understand the concept of inheritance and polymorphism and classify the difference between overloading and overriding. 5. Understand the concept of exception handling and use of templates. |
| **Course code- BCA-209**  **Title: Software Engineering** |
| 1. Identify the various components of SRS document and their relevance. 2. Describe the software project management and classify the various project planning techniques. 3. Describe the various metrics related to each phase of software development life cycle. 4. Understand the relationship between software design and software implementation. 5. Describe the various software testing techniques. 6. Write down the classification of various software maintenance methods and issues. |

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| **Course code- BCA-210**  **Title: PRACTICAL BASED ON PAPER BCA-206 & BCA-208 USING HTML AND C++ LANGUAGE** |
| 1. Implement the concept of object-oriented programming using C++. 2. Understand the implementation of the concept of polymorphism and inheritance. 3. Understand the concept of exception handling and templates for implementation. 4. Implement interactive Webpage(s) using HTML. 5. Design a responsive webpage using FORMS. |
| **Semester –V** |
| **Course code- BCA – 301**  **Title: MANAGEMENT INFORMATION SYSTEM** |
| 1. Describe system and its basic concepts and information system in detail. 2. Describe MIS, levels of Management, Simon's Model of decision making. 3. Learn and describe developing information system and pitfalls in MIS development. 4. Learn and describe Functional MIS that includes Personnel, Financial and production MIS, decision support system. |
| **Course code- BCA-302**  **Title: Computer Graphics** |
| 1. Describe graphic system, application area of graphics, define various input output devices and differentiate between raster scan and random scan. 2. Define various scan conversation of point, line, circle and ellipse, filled area primitives 3. Evaluate and define and evaluate 2d transformation, viewing pipeline and clipping algorithms. 4. Define and evaluate 3d transformation, viewing pipeline and clipping algorithm. |
| **Course code- BCA – 303**  **Title: Data Communication and Networking** |
| 1. Understand the basic concepts like computer network topologies, design issues and protocols like X25, Frame relay, ATM etc. 2. Describe the various communications and networking models like OSI, TCP/IP, etc. 3. Understand the various concepts of Analog and Digital communications that includes representation, data encoding techniques, etc. 4. Describe various modulation techniques, types of transmission media and various switching and multiplexing techniques. 5. Learn about data link layer responsibilities and their implementation like media access. control protocols, various LAN technologies and various network hardware components. 6. Describe various network layer and routing concepts, and various network security. methods |
| **Course code- BCA – 304**  **Title: Visual Basic** |
| 1. Understand the overview of programming language (visual and non-visual). 2. Understand VB application environment and event driven programming. 3. Learn about basic programming concepts like variables, operators and various control for I/O in VB. 4. Implement various control constructs, arrays and collections used in VB. 5. Learn and implement about procedure, subroutine and menu driven programming. 6. Get practical learning on Visual Basic. |

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| **Course code- BCA-305**  **Title: PRACTICAL BASED ON PAPER BCA-304 (VB LANGUAGE) AND BCA-302** |
| 1. Implement line drawing algorithms. 2. Create images using basic functions. 3. Develop a Graphical User Interface (GUI) based on problem description. 4. Develop and debug applications using VB that runs under operating system. |
| **Semester –VI** |
| **Course code- BCA – 306**  **Title: E-Commerce** |
| 1. Know the concepts of E-Commerce and their usage in daily life. 2. Know the use of E-payment system other e- techniques and security mechanism. 3. Know the difference between traditional and modern e-payment system. 4. Know the practical usage of e-payment apps CO5: Familiarize with EDI technology and its working. 5. Learn about the concept of EDI standards, EDI implementation, EDI agreement and EDI security. |
| **Course code- BCA-307**  **Title: Object Technologies & Programming using Java** |
| 1. Differentiate between procedure and object-oriented programming. 2. Describe how object-oriented methodologies are used in Java. 3. Understand why Java is called platform independent language. 4. Define and implement concept of inheritance and polymorphism. 5. Define and implement the concept of package, interface and exception handling. 6. Differentiate between string and string builder class. Learn about multi- threading and I/O in Java. |
| **Course code- BCA-308**  **Title: Artificial Intelligence** |
| 1. Understand and describe the concept of problem space and search. 2. Learn about various heuristic search techniques. 3. Evaluate and analyse various techniques and issues in knowledge representation. 4. Understand the various natural language processing concepts and various learning methods. 5. Describe the various components of an expert system and about expert system shells. |
| **Course code- BCA – 309**  **Title: INTRODUCTION TO .NET** |
| 1. Learn about framework, features and architecture of .Net. 2. Define the namespace, types and objects in .Net and learn about the evaluation of web development. 3. Describe class libraries and define .net assemblies, meta data and attributes and learn about characteristics of C# and different types of variables and scope of variables. 4. Understand and implement operators and expressions used in C# and implement various control constructs used in C#. 5. Define classes and methods with the help of C# programming and implement the concept of constructor, destructor and overloading of operators and functions. 6. Learn and implement concept of inheritance, polymorphism, exception handling and learn about input/output streams used in C#. |

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| **7.** Get practical learning on .Net programs. |
| **Course code- BCA-310**  **Title: PRACTICAL Based on paper BCA-307 and BCA-309** |
| 1. Implement the basic concept like Data types variables, constants, default values, boxing and unboxing with the help of Java and .Net. 2. Create the program implementing the concept of operators and expressions in Java and   .Net.   1. Implement the concepts of object-oriented programming in Java and .Net. 2. Implement inheritance and polymorphism in Java and .Net. |

B.A. Economics (Hons.)

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| **Semester –I** |
| **Course Code: 708945171- EC01**  **Title: INDIAN ECONOMY: problems and prospect -I** |
| 1. It will help in developing the conceptual framework of govt policies and programmes. 2. It will acquaint students with latest data and will enhance analytical skills. 3. Student will be able to understand the landscape of Indian economy. 4. The course will help in sharpening the analytical faculty of the student. 5. It will highlight an integrated approach to the functioning aspects of the Indian economy, keeping in view the scope for alternative approaches. |
| **Course code- 708945171-EC02**  **Title: MICRO ECONOMICS** |
| 1. It will result in equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework. 2. It will result in understanding the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty. |
| **Course code- 708945171- EC03**  **Title: MATHEMATICS FOR ECONOMISTS Analysis -I** |
| 1. The student is exposed to economic concepts in mathematical format through simple illustrations and prepares the ground for more scientific study. 2. In order to understand economic problems clearly, the knowledge of quantitative techniques in the area of mathematics and statistics is very essential. This course is meant to train the student in this direction. |
| **Semester –II** |
| **Course code- 72201213- EC06**  **Title: INDIAN ECONOMY- problems and prospect -II** |
| 1. It will help in developing the conceptual framework of government policies and programmes. 2. It will acquaint students with latest data and will enhance analytical skills. 3. Student will be able to understand the landscape of Indian economy. |

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| 1. The course will help in sharpening the analytical faculty of the student. 2. It will highlight an integrated approach to the functioning aspects of the Indian economy, keeping in view the scope for alternative approaches. |
| **Course code- 5172201214- EC07**  **Title: Micro Economics-II** |
| 1. It will help students in understanding the behaviour of individuals and small organizations in making decisions on the allocation of limited resources. 2. It will result in equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework. 3. It will result in understanding the micro and macro theories of distribution, welfare   economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty. |
| **Course code- 5172201215- EC08**  **Title: MATHEMATICS FOR ECONOMISTS Analysis -I** |
| 1. The student is exposed to economic concepts in mathematical format through simple illustrations and prepares the ground for more scientific study. 2. In order to understand economic problems clearly, the knowledge of quantitative techniques in the area of mathematics and statistics is very essential. This course is meant to train the student in this direction. |
| **Semester –III** |
| **Course code- 712455173-EC11**  **Title: Economics History of India (1857-1947)** |
| 1. To make the students understand the economic activities of ancient India 2. To familiar the students with the development process of our economy. |
| **Course code- 712455173-EC12**  **Title: MACRO ECONOMICS- I** |
| 1. To make student aware of the basic theoretical framework underlying the field of macroeconomics. 2. It helps students to study the aggregates and to provide overall idea about national economic policies and its implications. |
| **Course code- 712455173-EC13**  **Title: Development Economics** |
| 1. Impart understanding of the basic assumption and features of economic growth and development. 2. Provide understanding of the relevance of historical perspective of economic growth. 3. To impart theoretical knowledge about the concepts of poverty, inequality and development gap. 4. To explore diverse dimension and measures of development, as well as the application of microeconomic analysis to issues of development in poor countries, including the study of household decisions and the analysis of institutions and norms influencing development. |
| **Course code- 712455173-EC14** |

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| **Title: Welfare Economics-I** |
| 1. To understand the different ways to measure welfare changes for individuals and know how to aggregate them. 2. To be able to properly interpret compensated welfare changes and know how they relate to actual welfare changes typically isolated in demand-supply diagrams. 3. To understand how to construct models and use general equilibrium analysis. |
| **Course code- 712455173-EC15**  **Title: Statistics for Economics Analysis-I** |
| In order to understand economic problems clearly, the knowledge of quantitative techniques in the area of mathematics and statistics is very essential. This course is meant to train the student in this direction. |
| **Semester –IV** |
| **Course code- 5174400510- EC16**  **Title: Computer application in Economics Analysis** |
| The course describes an alternative approach to teaching content by using computer applications that emphasize the empirical testing or applications of the theory. |
| **Course code- 5174400511- EC17**  **Title: Macro Economics -II** |
| 1. It will help the students to apply supply and demand models to analyse responses of market to external events. 2. It will help students to describe ISLM model. 3. The course will illustrate the role of financial institutions in the economy. 4. Students will be able to explain concept of gross domestic product, inflation and Unemployment. |
| **Course code- 5174400512- EC18**  **Title: Development Economics** |
| 1. Impart understanding of the basic assumption and features of economic growth and development. 2. Provide understanding of the relevance of historical perspective of economic growth. 3. To impart theoretical knowledge about the concepts of poverty, inequality and development gap. 4. To explore diverse dimension and measures of development, as well as the application of microeconomic analysis to issues of development in poor countries, including the study of   household decisions and the analysis of institutions and norms influencing development. |
| **Course code- 5174400513- EC19**  **Title: Welfare Economics-II** |
| 1. To understand the different ways to measure welfare changes for individuals and know how to aggregate them. 2. To be able to properly interpret compensated welfare changes and know how they relate to actual welfare changes typically isolated in demand-supply diagrams. 3. CO2: To understand how to construct models and use general equilibrium analysis. |
| **Course code- 5174400514- EC20**  **Title: Statistics for Economics Analysis-II** |
| **1.** To make the students familiar with the terminology of statistical terms: Population, Sample, Parameter, Statistic, and Descriptive Statistic. |

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| 1. 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. 2. To provide an understanding for the students on statistical concepts to include measurements of location and dispersion, probability, distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting and to make them familiar with binomial, Poisson, normal and log-normal probability distributions. |
| **Semester –V** |
| **Course code- 712515175-EC21**  **Title: HISTORY OF ECONOMIC THOUGHTS-I** |
| Develop a chronological understanding of the development of economic thought Relate the developments in different schools of thought with contemporary issues. |
| **Course code- 712515175-EC22**  **Title: ECONOMETRICS** |
| 1. Econometric methods will prove particularly useful for understanding the interrelationships in the economic variables. 2. CO2: Students will learn the use of econometrics with greater precision and establishing such relationships. |
| **Course code- 712515175-EC23**  **Title: Basics of Financial Markets** |
| 1. Course work provides a path to follow research in general area of economics and business. 2. Students would 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. 3. To familiarise the students to study economics with an applied approach. |
| **Course code- 712515175-EC24**  **Title: Economics of agriculture** |
| 1. Expose the students to production economics principles and their applications. 2. Train the students in production economics tools for agricultural decision making 3. Able to acquire knowledge and analytical skills in addressing the issues of agricultural marketing. 4. Enhancing expertise in improving the performance of the marketing institutions and the players in marketing of agricultural commodities. 5. Understand the agricultural policies and its effect on sustainable agricultural development. 6. Understand the globalization and its impact on agricultural development. |
| **Course code- 712515175-EC25**  **Title: International Economics -I** |
| The course is helpful to develop a systematic exposition of models that try to explain composition, direction and consequences of international trade. |
| **Semester –VI** |
| **Course code- 5176600342-EC26** |

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| **Title: HISTORY OF ECONOMIC THOUGHTS-I** |
| Develop a chronological understanding of the development of economic thought Relate the developments in different schools of thought with contemporary issues. |
| **Course code- 5176600343-EC27**  **Title: Human Resource Development** |
| 1. To develop the understanding of the concept of human resource management and to understand its relevance in organizations. 2. To develop necessary skill set for application of various HR issues. 3. To analyse the strategic issues and strategies required to select and develop manpower resources. 4. To integrate the knowledge of HR concepts to take correct business decisions. |
| **Course code- 5176600344-EC28**  **Title: Economics of Public Finance** |
| 1. The students would learn of the feature the federal structure and financial relationship among them. 2. The course would develop 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. 3. It will help students to critically analyse the fiscal reforms and policy choices of the government in developed and developing countries. |
| **Course code- 5176600345-EC29**  **Title: Economics of Industry** |
| 1. To understand the levels at which capacity, output, and prices are set. 2. CO2 To understand the extent that products are differentiated from each other. 3. CO3 To understand how much firms invest in research and development (R&D). |
| **Course code- 5176600346-EC30**  **Title: International Economics -II** |
| 1. Students would know the country’s position regarding international trade, payments and foreign exchange. 2. The students would learn the methods regarding improvement in terms of trade, international debt and balance of payments positions. 3. Students would 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. |

B.A. (Hons.) Hindi

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| **Semester –I** |
| **Course Code: Hi01**  **Title:** हिन्दी िाटक |
| **1.** भाषा का ज्ञाि ह िा है  **2.** िाटक नवर्ा का ज्ञाि ह िा है।  **3.** िाटक के ित्त्व ों का ज्ञाि ह िा है। |

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| **Course code- Hi02**  **Title:** भाषा हवज्ञाि |
| **1.** सामान्य भाषा एवों काव्य भाषा का ज्ञाि ह िा है।  **2.** िागरी नलनप का ज्ञाि ह िा है।  **3.** भाषा की पररभाषा एवों स्वरूप का ज्ञाि ह िा है। |
| **Semester –II** |
| **Course code- Hi03**  **Title:** हिन्दी उपन्यास |
| उपन्यास नवर्ा का ज्ञाि ह िा है। |
| **Course code- Hi04**  **Title:** साहित्यल चि |
| **1.** काव्य नसद्धाोंि ों का ज्ञाि ह िा है।  **2.** काव्य िास्त्रीय वाद ों का ज्ञाि ह िा है। |
| **Semester –III** |
| **Course code- Hi05**  **Title:** मध्यकालीि हिन्दी कहवता |
| मध्यकालीि नहोंदी कनविा का ज्ञाि ह िा है। |
| **Course code- Hi06**  **Title:** आधगहिक हिन्दी कहवता |
| आर्ुनिक नहोंदी कनविा का ज्ञाि ह िा है। |
| **Course code- Hi07**  **Title:** किािी साहित्य |
| किािी हवधा का ज्ञाि ि ता िै। |
| **Semester –IV** |
| **Course code- Hi08**  **Title:** हिबन्ध साहित्य |
| निबोंर् सानहत्य का अध्ययि करिे हैं। |
| **Course code- Hi09**  **Title:** सोंस्मरण एवों आत्मकथा |
| सोंस्मरण और आत्मकथा नवद्या का ज्ञाि ह िा है। |
| **Course code- Hi10**  **Title:** हिन्दी साहित्य का इहतिास |
| **1.** नहोंदी सानहत्य के इनिहास का अध्ययि करिे हैं।  **2.** आनदकाल भद्धक्त काल एवों रीनिकाल की पृष्ठभूनम से अवगि ह िे हैं। |
| **Semester –V** |

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| **Course code- Hi11**  **Title:** आधगहिक हिन्दी साहित्य का इहतिास |
| आर्ुनिक नहोंदी सानहत्य के इनिहास का ज्ञाि ह िा है। |
| **Course code- Hi12**  **Title:** पत्रकाररता और अिगवाद |
| पत्रकाररिा और अिुवाद का ज्ञाि ह िा है। |
| **Semester –VI** |
| **Course code- Hi14**  **Title:** काव्याोंग पररचर् |
| **1.** काव्य के भेद ों क िाििे हैं।  **2.** नवनवर् गद्य नवर्ाओों का ज्ञाि ह िा है।  **3.** रस छों द अलोंकार िब्द िद्धक्त का ज्ञाि ह िा है। |
| **Course code- Hi16**  **Title:** हवकल्प- सूरदास, भ्रमरगीत |
| **1.** सूरदास के पद ों की व्याख्या का ज्ञाि ह िा है। |
| **Course code- Hi20**  **Title:** िाटककार जर्शोंकर प्रसाद |
| **1.** ियिोंकर प्रसाद के िाटक ों का अध्ययि करिे हैं।  **2.** अिािित्रु एवों ध्रुवस्वानमिी िाटक के माध्यम से समाि की ज्वलोंि समस्याओों का ज्ञाि ह िा है। |

B.Com. (Hons.)

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| **Semester –I** |
| **Course Code: BCH-1.01**  **Title: An Introduction to Statistics** |
| 1. To provide the knowledge of presentation techniques of data. 2. To provide the knowledge of various tools of statistics. 3. How probability analysis helps in forecasting. 4. To provide the knowledge of applicability of statistics in various fields. |
| **Course code- BCH-1.02**  **Title: Business Communication** |
| 1. Students will discern a multiplicity of intellectual perspectives constituting. communication theory and research in various contexts. 2. Students will be able to analyse communication problems effectively. 3. Students will be able to describe principles of effective audience-based strategies for public speaking. |
| **Course code- BCH-1.03** |

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| **Title: Business Organisation** |
| 1. Provides with the logic and working of organizations and outlines the major function of business organisation. 2. Enables students to acquire and exhibit knowledge skills and abilities needed to successfully manage the organization with different environmental situations. 3. Enables students master their skills and ideas to establish a strong foundation of confidence required to become an entrepreneur. 4. Prepares students to face the hindrances of entrepreneurship and preparation of business plans covering aspects like finance, marketing, sales etc. |
| **Course code- BCH-1.04**  **Title: An Introduction to Accounting** |
| 1. Apply quantitative skills to help analyse and solve business problems and to take advantage of business opportunities 2. Demonstrate an appropriate mastery of the knowledge, skills and tools of financial accounting principles and managerial accounting principles. |
| **Course code- BCH-1.06**  **Title: Business Law-I** |
| 1. Knowledge: Basic and broad knowledge in business laws in management. 2. Ability to apply concepts. 3. principles and theories to understand simple business laws. |
| **Semester –II** |
| **Course code- BCH- 2.01**  **Title: Financial Accounting for Business** |
| 1. Understand the process and preparation of financial statements for Sole Proprietorship and Company and Departmental Business Organizations. 2. Students will be able to analyse communication problems effectively. 3. Show proficiency in basic accounting concepts, conventions and understanding of the accounting process. 4. Students will be able develop an attitude to focus on financial statement users, their information needs. |
| **Course code- BCH-2.03**  **Title: Business Statistics** |
| 1. To provide the knowledge of statistics quality control. 2. To provide the knowledge of applicability of correlation and regression. 3. To provide the knowledge that how time series is helpful in forecasting. 4. To provide the knowledge of probability distributions. |
| **Course code- BCH- 2.04**  **Title: Business Managemen**t |
| 1. Develop the knowledge of business and management principles. 2. Learn effective communication skills. 3. Learn critical thinking and problem-solving skills. 4. Able to analyse the different financial and non-financial incentive methods. |
| **Course code- BCH- 2.05** |

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| **Title: Business Law-II** |
| 1. Students will learn several Acts governing the business Firms such as Partnership Act, 1932 and will be able to explain the provisions regarding admission, registration and dissolution of partnership firm. 2. They will be able to explain the provisions of Industrial Dispute Act, 1947 and will get to know about various redressal mechanisms of industrial disputes. 3. They will learn The factories Act, 1948. |
| **Semester –III** |
| **Course code- BCH-3.02**  **Title: Corporate Accounting-I** |
| 1. The main objective of this subject to provide the knowledge of companies, Shares and regulatory of companies. 2. This subject describes the format of final accounts of the company. 3. It provides the knowledge of issue of shares and issue of debentures etc. 4. It also provides the methods of valuation of goodwill and shares. |
| **Course code- BCH-3.03**  **Title: Cost Accounting** |
| 1. To make aware about cost structure and cost elements. 2. To understand various techniques and methods of cost accounting. 3. To understand various aspects of material control & wastage. 4. To understand various aspects of labour cost control. 5. To understand classification of overheads & methods of absorption. 6. To understand the features of a cost-sheet & determining tender price. |
| **Course code- BCH-3.04**  **Title: Company Law-I** |
| 1. To give insight on Memorandum of Association, Article of Association, and Prospectus. 2. Describe the concept of joint stock companies. 3. To regulate investors, employees, stakeholders etc. |
| **Course code- BCH-3.05**  **Title: Principles of Marketing** |
| 1. Enables students to understand the concept of marketing and the recent innovations in marketing. 2. Helps identify the marketing dynamics. 3. Helps in formulating marketing strategies and its practical application of market orientation. 4. To study consumer behaviour. |
| **Semester –IV** |
| **Course code- BCH- 4.01**  **Title: Corporate Accounting-II** |
| 1. It includes Banking Company accounts. 2. It also describes the process of liquidation which is included in the company accounts. 3. This subject also provides the knowledge of amalgamation of the company. 4. It also helps students to give practical knowledge of accounts. |
| **Course code- BCH- 4.02** |

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| **Title: Business Ethics** |
| 1. The students will gain knowledge about politics, equality, justice, rights and recognition. 2. It will also provide guidelines to commerce students how to perform business activities ethically. 3. The students will be able to understand what is corporate social responsibility and its importance to business. 4. This course clears the concept of corruption, corporate scandals whistleblowing, insider trading and the concept of gender sensitisation along with the need of gender sensitisation for society. |
| **Course code- BCH- 4.03**  **Title: Company Law-II** |
| 1. To provide the knowledge of different typed of company working around the world. 2. How a company established. 3. To provide the knowledge of fundamental documents of company. 4. To provide the knowledge of different type of charges on assets. |
| **Course code- BCH- 4.04**  **Title: Statistical Analysis using MS Excel** |
| 1. Be able to use Microsoft Excel to –Calculate mean, median, mode, standard deviation, maximum and minimum values –Create a frequency chart –Create a histogram. 2. Purpose of a Spreadsheet Store raw data Make calculations analyse data Create charts to represent data Get out your notes and open Microsoft Excel. 3. The Business Statistics and Analysis Specialization is designed to equip you with a basic understanding of business data analysis tools and techniques. |
| **Course code- BCH-4.05**  **Title: Financial Institutions & Markets** |
| 1. Help to understand how financial market works in India. 2. Knowledge of Money Market and instruments. 3. How Stock Exchange in Works. 4. Importance of venture capital in India. |
| **Course code- BCH- 4.06**  **Title: Auditing** |
| 1. Understand the concept of auditing, its nature and importance. 2. Students will be able to differentiate between different aspects of auditing like internal audit, internal check and internal control. 3. Understand the concept of routine checking and vouching. 4. Develop an understanding about cost audit, tax audit and management audit. 5. Learn the appointment procedure, power, duties and liabilities of an auditor. |
| **Semester –V** |
| **Course code- BCH-5.01**  **Title: Financial Management** |
| 1. To develop the knowledge of business finance and financial management decision. 2. To learn different techniques and problem skills. 3. To study effective written and oral communication. 4. To teach a sense of responsibility and a capacity for financial management. 5. Students will Understand the meaning of financial management and will be able to |

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| differentiate the role of finance manager with respect to others.   1. They will be able to take Various Financial and investment decisions based on present value. 2. Also, they will be able to calculate Cost of Capital of the firm, perform leverage analysis, EBIT-EPS Analysis. 3. They will learn the concept and theories of capital structure, dividend policy etc. |
| **Course code- 5.02**  **Title: Cost Accounting-I** |
| 1. To make aware about cost structure and cost elements. 2. To understand various techniques and methods of cost accounting. 3. To understand various aspects of material control & wastage. 4. To understand various aspects of labour cost control. 5. To understand classification of overheads & methods of absorption. 6. To understand the features of a cost-sheet & determining tender price. |
| **Course code- 5.03**  **Title: Accounting for Management** |
| 1. To make the students understand the meaning, nature and scope of Management Accounting 2. To make the students understand about Management accounting vs. financial accounting vs. Cost accounting. And to know about different tools and techniques of management accounting. 3. To know about Cash flow Statement and Financial planning. |
| **Course code- 5.04**  **Title: Financial Market Operations** |
| 1. Students will learn about the Indian financial system, various financial institutions, financial services and innovative financial instruments. 2. They will understand the working of Indian money market and capital market. 3. They will learn about SEBI, merchant banking and various credit rating agencies. 4. Students will get familiar with various mutual funds available in the market and will come to know about various development banks. |
| **Course code- 5.05**  **Title: Entrepreneurship and Small-Scale Business** |
| 1. Demonstrate the ability to apply knowledge of key leadership concepts in an integrated manner. 2. Demonstrate the ability to identify and evaluate business opportunities and trends. 3. Demonstrate the ability to identify potential start-up models and resources given trends and opportunities. 4. Demonstrate the ability to apply knowledge of business concepts and functions in an integrated manner. |
| **Course code- 5.06**  **Title: International Business Environment** |
| 1. Help to understand of international culture. 2. knowledge how to enter other nation markets. 3. Improve the skills of other nation culture. 4. Help in employment in Marketing field. 5. Knowledge about international trade theories and balance of payment. |

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| 1. Knowledge about foreign exchange market. 2. Understand the concepts of international business environment. |
| **Semester –VI** |
| **Course code- 6.01**  **Title: Taxation Law-II** |
| 1. To make the students determine the net total taxable income of an assessed after reducing the deductions from the gross total income. 2. To help the students understand the computation of income and tax for a partnership firm. 3. To make the students understand the provisions of Deduction of Tax at source. 4. To help the students understand the powers of Income Tax Authorities and about Appeals & Revision. 5. To make the students understand how to fill and file an Income Tax Return electronically. |
| **Course code- 6.02**  **Title: Cost Accounting –II** |
| 1. To make aware about cost structure and cost elements. 2. To understand various aspects of process costing along with joint and by-product. 3. To understand the concept of contract costing along with job and batch costing. 4. To understand the concept of budget and its controlling tools. 5. To understand the concept of standard and marginal costing. |
| **Course code- 6.03**  **Title: Financial Management** |
| 1. To develop the knowledge of business finance and financial management decision. 2. To learn different techniques and problem skills. 3. To study effective written and oral communication. 4. To teach a sense of responsibility and a capacity for financial management. |
| **Course code- 6.04**  **Title: Auditing** |
| 1. Understand the concept of auditing, its nature and importance. 2. Students will be able to differentiate between different aspects of auditing like internal audit, internal check and internal control. 3. Learn the appointment procedure, power, duties and liabilities of an auditor. 4. Understand the concept of routine checking and vouching. 5. Students will be able to differentiate between investigation and auditing. |
| **Course code- 6.05**  **Title: Goods and Services Tax & Customs Law** |
| 1. Help to understand Single tax calculation. 2. Help to understand impact of all type of business. 3. Help to computation of tax. 4. Knowledge of SGST AND CGST. |
| **Course code- 6.06**  **Title: International Marketing** |
| 1. Students should be able – To learn model building process used for solving marketing problems. 2. Choose various analytical techniques for improving marketing decisions. 3. Learn to bring innovation in the marketing strategy and achieve marketing plan objective. |

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| **4.** Learn to apply marketing strategy under different market conditions and business challenges. |

B.A. (Hons.) Psychology

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| **Semester –I** |
| **Course Code: PY01**  **Title: Basic psychological Processes** |
| 1. To introduce students to the basic concepts of the field of psychology with an emphasis on applications of psychology in everyday life. 2. Appreciation of the scope and the field of psychology. 3. Developing familiarity with basic concepts related to some foundational themes of study in psychology such as learning, memory, perception, and thinking. |
| **Course code- PYO2**  **Title: Social Psychology** |
| 1. Understanding the basic social psychological concepts and familiarize with relevant methods. 2. Developing skills pertaining to mapping of social reality and understanding how people evaluate social situations. 3. Developing an understanding pertaining to social influence processes particularly the influence of others on individual behaviour and performance. 4. Develop an understanding of the individual in relation to the social world |
| **Course code- PY03**  **Title: Basic of Research Methods and Statistics.** |
| 1. To familiarize students with the use of statistical methods in psychological research 2. To foster an understanding of the techniques of descriptive statistics for quantitative research. 3. To teach the application of the same in the field of Psychology. |
| **Course code- PY04**  **Title: Practical** |
| 1. Ability to administer, analyse and interpret results from various psychological tools. 2. Expanded knowledge of various assessment procedures. 3. Learning regarding conduction of experiments. |
| **Semester –II** |
| **Course code- PY05**  **Title: Cognitive Processes** |
| Focused on concepts of attention, perception, memory, learning, thinking, concept formation, language formation. |

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| **Course code- PY06**  **Title: Applying social Psychology** |
| 1. Understanding the key issues and theoretical concepts related to social inequalities, especially in the Indian context. 2. Developing insights into issues related to groups, environment and the legal system. |
| **Course code- PY07**  **Title: Basics of research methods and statistics** |
| 1. Developing an understanding of the nature of qualitative and quantitative inquiry 2. To educate students with the techniques of inferential statistics and hypothesis testing 3. Developing a basic knowledge of how to analyse data quantitatively |
| **Course code- PYO8**  **Title: Practical** |
| 1. Ability to administer, analyse and interpret results from various psychological tools. 2. Expanded knowledge of various assessment procedures. 3. Learning regarding conduction of experiments. |
| **Semester –III** |
| **Course code- PY09**  **Title: Biological Basis of Behaviour** |
| 1. Understanding the biological bases of human behaviour, its nature and scope. 2. Developing critical thinking to use scientific techniques for biological psychology and developing an awareness of ethical issues accompanying them. 3. Having basic knowledge about the structures of human brain, their functions and impact on human behaviour. 4. Realizing the importance of hormones in behaviour, cognition and emotions. |
| **Course code- PY10**  **Title: Basics of Health Psychology** |
| 1. Understanding health psychology and the relation between mind and body. 2. Identifying the characteristics of healthy behaviours and promoting them. 3. Understanding a variety of health enhancing behaviours and the importance of exercise, nutrition, safety and management of pain and stress. 4. Developing an understanding of pursuing research in health psychology domains and developing interventions. |
| **Course code- PY11**  **Title: Psychological Testing** |
| 1. Analyse and apply the understanding of psychological testing. 2. Interpret and assess the role of psychological testing in various settings. 3. Organize the various steps in construction of a psychological test. 4. Review the ethical issues surrounding psychometric evaluation, testing and interpretation in day-to-day life. |

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| **Course code- PY12**  **Title: Practical** |
| 1. Ability to administer, analyse and interpret results from various psychological tools. 2. Expanded knowledge of various assessment procedures. 3. Learning regarding conduction of experiments. |
| **Semester –IV** |
| **Course code- PY13**  **Title: Psychopathology** |
| 1. Identify different types of anxiety and mood disorders, their clinical picture and management. 2. Analyse Impact of socio-occupational & personal functioning. 3. Formulate the case with the help of psychological testing. 4. Plan Therapeutic programs for management based on goals of therapy 5. The students will understand signs and symptoms of psychopathology. 6. They will be able to assess the symptoms, nature, causes and dysfunctions associated with these disorders. 7. They will be able to understand the intervention programs with regard to the goals of therapy. |
| **Course code- PY14**  **Title: Life style and Health** |
| 1. Understanding the role of behavioural factors in disease and disorders. 2. Identifying the characteristics of healthy behaviours and promoting them. 3. Understanding a variety of health enhancing behaviours and the importance of exercise, safety and management of pain and stress. |
| **Course code- PY15**  **Title: Psychological Assessment** |
| 1. Analyse and apply their understanding of psychological testing. 2. Interpret and assess the role of psychological testing in various settings. 3. Effectively synthesize and apply the variations in scales and tests. 4. Apply psychological testing, and various tests to assess intelligence and personality. 5. Demonstrate ways to measure personality and various scales and tests that are used for the purpose. 6. To enable students to understand the concepts and methodology for its application in research work and human behaviour. |
| **Course code- PY16**  **Title: Practical** |
| 1. Ability to administer, analyse and interpret results from various psychological tools. 2. Expanded knowledge of various assessment procedures. 3. Learning regarding conduction of experiments. |
| **Semester –V** |
| **Course code- PY17** |

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| **Title: Basics of Neuropsychology** |
| 1. Describe the nature and basic principles of neuropsychology. 2. Identify the brain’s levels and structures and summarize the functions of its parts. 3. Plan and Execute assessments and rehabilitation for individuals with neurocognitive dysfunctions. 4. Understand the complexities associated with the nervous system and its command centre the brain. |
| **Course code- PY18**  **Title: Industrial Psychology** |
| 1. Design training & development process of an organizations, apply various methods in organizational setting. 2. The goal of this course is to understand how psychological principal improve efficiency and quality of employee life. 3. Students gain knowledge about the history of I/O psychology, job analysis, motivation, leadership, job satisfaction, work stress and health. |
| **Course code- PY19**  **Title: Child Development** |
| 1. Ability to construct and interpret a historical overview of Child psychology. 2. This course introduces the students to the biological foundations, various developmental stages and theories from prenatal to childhood stages. |
| **Course code- PY20**  **Title: Psychology of Social Issues** |
| 1. Understanding the concepts of social systems: Indian family system. 2. Understanding the key issues and theoretical concepts related to social inequalities, especially in the Indian context. 3. Developing insights into issues related to groups, environment and the legal system. |
| **Course code- PY21**  **Title: Practical** |
| 1. Ability to administer, analyse and interpret results from various psychological tools. 2. Expanded knowledge of various assessment procedures. 3. Learning regarding conduction of experiments. |
| **Semester –VI** |
| **Course code PY22**  **Title: Clinical Psychology** |
| 1. Express the nature and scope of clinical psychology and its linkages to other fields of healthcare and management. 2. Develop insight various categories of psychological disorders with an emphasis on diagnosis and prognosis. 3. Illustrate and analyse the ethical issues in clinical practice. 4. Identify and inculcate the skills to become a professional in the field of clinical psychology. |
| **Course code- PY23** |

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| **Title: Organizational Psychology** |
| 1. To develop an awareness of the concepts related to organizational behaviour. 2. Help the students develop a connection between concepts and practices of organizations. 3. Understanding the evolution of the field of organizational behaviour and the challenges faced by the field today, for instance diversity, corporate social responsibility, etc. 4. Developing a deeper understanding of conceptual and theoretical bases of motivation and employees’ work attitudes and their relationship with performance and organizational outcomes. 5. Understanding leadership processes from different theoretical perspectives. |
| **Course code- PY24**  **Title: Developmental Psychology** |
| 1. Demonstrating an ability to understand and distinguish major theoretical perspectives and methodological approaches in human development. 2. Developing an ability to identify the milestones in diverse domains of human development across life stages. 3. Understanding the contributions of socio-cultural context toward shaping human development. 4. Acquiring an ability to decipher key developmental challenges and issues faced in the Indian societal context. |
| **Course code- PY25**  **Title: Applied Psychology** |
| 1. Understand how psychological theories and principles relate to everyday life and apply knowledge of Behaviour modification and life skill training to solve everyday problems. 2. Students are exposed to the elementary scientific research methods, techniques, counselling skills, ethics and evaluating skills of Psychology. 3. Apply psychological principles to understand personal as well as social issues and problems. |
| **Course code- PY26**  **Title: Practical** |
| 1. Ability to administer, analyse and interpret results from various psychological tools. 2. Expanded knowledge of various assessment procedures. 3. Learning regarding conduction of experiments. |

B.Sc. Math (Hons.)

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| **Semester –I** |
| **Course Code: BHM 111**  **Title: Algebra** |
| 1. Solve system of linear equation. 2. Solve Diophantine equation. 3. Find roots of polynomial over rational. 4. Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, using rank. |

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| **5.** Find eigenvalues and corresponding eigenvectors for a square matrix. |
| **Course code- BHM-112**  **Title: Calculus** |
| 1. Verify the value of the limit of a function at a point using the definition of the limit 2. Sketch curves in a plane using its mathematical properties in the different coordinate systems of reference. 3. Apply derivatives in Optimization, Social sciences, Physics and Life sciences etc. 4. Compute area of surfaces of revolution and the volume of solids by integrating over cross-sectional areas. |
| **Course code- BHM-113**  **Title: Solid Geometry** |
| 1. Students will be able to find the tangents and normal to the conic and tracing of the conics. 2. Students will learn the characteristics of spheres, cones, cylinders, central conicoid and paraboloids. |
| **Course code- BHM-114**  **Title: Discrete Mathematics-I** |
| 1. Understand about the logical operations, propositions, predicates, validity and generating functions. 2. Identify sets, different properties of sets, set operations and set identities. 3. Understand logical concepts and to show logical equivalences by using truth tables and rules in logics. 4. Learn concepts related to counting. |
| **Course code- BHM-115**  **Title: Descriptive Statistics** |
| 1. Learn about the classifications of data, measures of dispersion and central tendency. 2. Learn about the moments, skewness, kurtosis and the theory of attributes. |
| **Semester –II** |
| **Course code- BHM-121**  **Title: Number Theory and Trigonometry** |
| 1. Find quotients and remainders from integer division. 2. Apply Euclid’s algorithm and backwards substitution. 3. Understand the definitions of congruence, residue classes and least residues add and subtract integers, modulo n, multiply integers and calculate powers, modulo n. 4. Determine multiplicative inverses, modulo n and use to solve linear congruence. 5. Learn the theory of quadratic residues. 6. Find the solutions of circular, hyperbolic, inverse circular and inverse hyperbolic functions. |
| **Course code- BHM-122**  **Title: Ordinary Differential Equation** |
| **1.** Student will be able to solve first order differential equations utilizing the standard |

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| techniques for separable, exact, linear, homogeneous, or Bernoulli cases.   1. Student will be able to find the complete solution of a nonhomogeneous differential equation as a linear combination of the complementary function and a particular solution. 2. Student will have a working knowledge of basic application problems described by second order linear differential equations with constant coefficients. |
| **Course code- BHM- 123**  **Title: Vector Calculus** |
| 1. Understand the applications of vector algebra to geometry and mechanics. 2. Learn about the directional derivatives, gradient, divergence, curl, Laplacian operators, orthogonal curvilinear coordinates and vector integration. 3. Evaluate line integrals, surface area and surface integrals. |
| **Course code- BHM- 124**  **Title: Discrete Mathematics-II** |
| 1. Learn about Partial Ordered Set, Lattices and their types 2. Understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications. 3. Assimilate various graph theoretical concepts and familiarize with their applications. 4. Solve the problems related to shortest path. |
| **Course code- BHM- 125**  **Title: Regression Analysis and Probability** |
| 1. Know the concepts of linear and curvilinear regression, probability and mathematical expectation. 2. Understand basic probability axioms and rules. 3. Learn about moments and bivariate random variable. |
| **Semester –III** |
| **Course code- BHM- 231**  **Title: Advanced Calculus** |
| 1. Understand differentiation and fundamental theorem in differentiation and various rules. 2. represent the functions geometrical and solve problems on Mean value Theorem and Rolls theorem. 3. Find extreme values of function. |
| **Course code- BHM-232**  **Title: Partial Differential Equations** |
| 1. Familiar with the modelling assumptions and derivations that lead to PDEs. 2. Recognize the major classification of PDEs and the qualitative differences between the classes of equations. 3. Solve linear PDEs using classical solution methods. |
| **Course code- BHM-233**  **Title: Statics** |
| 1. Determine the resultant of a system of forces. 2. Draw complete and correct free-body diagrams and write the appropriate equilibrium equations from the free-body diagram. 3. Determine the support reactions on a structure. |

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| 1. Determine the connection forces in trusses and in general frame structures. 2. Determine the internal reactions in a beam. |
| **Course code- BHM-234**  **Title: Differential Geometry** |
| 1. Compute the curvature and torsion of space curves. 2. Understand the fundamental theorem for space curves. 3. get introduced to the concept of a parameterized surface with the help of examples. 4. Understand the concepts of surfaces, Geodesics and the curves in relation to Geodesics. |
| **Course code- BHM-235**  **Title: Probability Distribution** |
| Students will be able to know about the moment generating functions, convergence in probability and various probability distributions. |
| **Semester –IV** |
| **Course code- BHM-241**  **Title: Sequences and Series** |
| 1. Determine if an infinite sequence is bounded, monotonic or oscillating. 2. Determine the sequence whether it is convergent or divergent by using the appropriate tests. 3. Find the sequence of partial sum for an infinite series. 4. Determine if an infinite series is convergent or divergent by selecting the appropriate tests such as D’ Alembert ratio test, Raabe’s test, Bertrand test, Gauss test, Cauchy   condensation test, Cauchy nth root test, etc. |
| **Course code- BHM-243**  **Title: Programming in C and Numerical Method** |
| 1. Obtain numerical solution of algebraic and transcendental equations 2. Find numerical solutions of system of linear equations and check the accuracy of the solution 3. Learn the basic components of computer 4. Understand and apply the programming concepts of C language which is important for mathematical investigation and problem solving. |
| **Course code- BHM-244**  **Title: Hydrostatics** |
| 1. Understand the conditions of equilibrium, pressure on plane surfaces and Gas laws. 2. Learn the concept of work done in producing a displacement |
| **Course code- BHM-245**  **Title: Elementary Inference** |
| 1. Test the experiment using various methods like chi-square 2. Learn about the sampling distribution and its various tests. |
| **Semester –V** |
| **Course code- BHM-351**  **Title: Real Analysis** |
| **1.** Understand some properties of Riemann integrals functions and the applications of the |

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| fundamental theorems of integration.   1. Study improper integration using Riemann integration. 2. Understand the concepts of metric spaces and their properties, like openness, closedness, completeness, Bolzano-Weierstrass property, compactness and connectedness. 3. Learn about the continuity of a function defined on metric spaces. |
| **Course code- BHM-352**  **Title: Groups and Rings** |
| 1. Understand the fundamental concepts of groups, subgroups, cyclic groups etc. 2. Extend group structure to finite permutation groups (Caley Hamilton Theorem). 3. Understand the concepts of ring, subring and integral domain. 4. Study quotient ring, field. 5. Learn about ideal, irreducibility of polynomials. |
| **Course code- BHM-353**  **Title: Numerical Analysis** |
| 1. Understand to apply interpolation and extrapolation numerical methods. 2. Learn to apply appropriate numerical methods to determine approximate solution of ODE and system of linear equations. 3. Compare different methods in numerical analysis accuracy and efficiency of solution. 4. Learn about linear equations, matrix algebra, vector space, eigenvalues and eigenvectors, orthogonality and diagonalization. 5. Solve initial and boundary value problems in differential equations using different numerical methods. |
| **Course code- BHM-354**  **Title: Integral Equations** |
| 1. Recognize difference between Volterra and Fredholm Integral Equations, First kind and Second kind, homogeneous and inhomogeneous etc. 2. Apply different methods to solve Integral Equations. 3. Understand the fundamental concepts of the space of admissible variations and concepts of a weak and a strong relative minimum of an integral. |
| **Course code- BHM-355**  **Title: Methods of Applied Mathematics** |
| 1. Find the solutions of wave, heat and Laplace equations. 2. Understand the concept of Hankel transform of elementary functions and their applications to partial differential equations. 3. To obtain the solution of Fourier series of heat equation. |
| **Semester –VI** |
| **Course code- BHM-361**  **Title: Real and Complex Analysis** |
| Develop a chronological understanding of the development of economic thought Relate the developments in different schools of thought with contemporary issues. |
| **Course code- BHM-362**  **Title: Linear Algebra** |
| **1.** Understand the concepts of vector spaces, subspaces, basis, dimension, quotient spaces |

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| and their properties.   1. Relate matrices and linear transformation, compute eigen values and eigen vectors of linear transformations. 2. Learn properties of inner product spaces and determine orthogonality in inner product spaces. 3. Study importance of adjoint of a linear transformation and its canonical form. |
| **Course code- BHM-363**  **Title: Dynamics** |
| 1. Identify the basic relations between distance, time, velocity, and acceleration. 2. Understand the concept of velocity and acceleration along radial and transverse axes. 3. Learn about Newton and Kepler law of motions. |
| **Course code- BHM-364**  **Title: Elementary Topology** |
| 1. Understand the basic definition of topology and how it is related to real life problems. 2. Learn about the continuity, compactness, connectedness and homeomorphisms of functions. 3. Get the idea of separation axioms and their characterizations. |
| **Course code- BHM-365**  **Title: Fluid Dynamics** |
| 1. Learn about Eulerian and Lagrange methods of kinematics. 2. Get the knowledge of stream lines, path lines and streak lines. 3. Understand the idea of irrotational motions. |

B.Sc. Physics Hons.

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| **Semester –I** |
| **Course Code: Phy-101**  **Title: Vector Algebra and Analysis Review of vector algebra** |
| 1. It is use to understand Newtonian mechanics and Scientific experimentsbased on directional force. 2. In real life, integrations are used in various fields such as engineering, where engineers use integrals to find the shape of buildings. 3. In Physics, it is used in the centre of gravity and in the field of graphical representation, where three- dimensional models are demonstrated. |
| **Course code- Phy-102**  **Title: Fundamentals of Dynamics** |
| 1. It is used to predict the motion of planets in the solar system and the time it takes for a car to stop after applying brake. 2. We see in our daily life that many objects which move have both translation and rotation motion. rotational motion is also very important and the angular position of a rotating |

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| body is the angle which the body has rotated through a fixed coordinate system, which serves as a frame of reference. |
| **Course code- Phy-103**  **Title: Electric Circuits and Electric Field** |
| 1. To understand the electromagnetic Phenomena in the electric circuits and the theoretical study of electric field as well as phenomena based on electric field. 2. This type of study also helps to understand the phenomena of semiconductor with the help of dielectric constant. |
| **Course code- Phy-104**  **Title: Sequences and Series** |
| Sequences and Series play an important role in various aspects of our lives. They help us predict, evaluate and monitor the outcome of programs. |
| **Course code- Phy-106**  **Title: Basic Concepts of Integrated Circuits** |
| 1. Active and passive component. 2. It gives the basic details of integrated circuits like active and passive components. Because the present time is full of technology and every device has to be smaller in size. 3. The size of devices can be reduced with the help of integrated circuit. 4. The device based on integrated circuits is also used in digital circuits. |
| **Semester –II** |
| **Course code- Phy-201**  **Title: Mathematical Physics-II (Differential Equations)** |
| Differential equations are used to calculate the movement or flow of electricity or to explain thermodynamics concepts. |
| **Course code- Phy-202**  **Title: Mechanics II,** (Gravitation and Central Force Motion) |
| This concept gives the knowledge of gravitational and central forces which is inversely proportional to the distance between two objects/particles. |
| **Course code- Phy-203**  **Title: Magnetism (Magnetic Field)** |
| It updates the students about magnetism which is the force exerted by magnets when they attract or repel each other. Magnetism is caused by the motion of electric charges. |
| **Course code- Phy-204**  **Title: Mathematics-II (Functions of a real variable)** |
| Mathematics is the tool for physics. With the help of function of a real variable, mathematics can be used to define, explain, and do calculations of motion, electricity, heat, light, harmonics, acoustics, astronomy, and dynamics. |
| **Course code- Phy-206**  **Title: Linear and Digital Integrated Circuits & Instrumentation-II** |
| Flip flops are used to store the static information and with the help of these students can understand the concepts of memory and electronic devices. |

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| **Semester –III** |
| **Course code- Phy-301**  **Title: Mathematical Physics III (Complex Variables)** |
| Complex analysis is also mathematical tool which is quite useful in solving Laplace's equation in two dimensions. |
| **Course code- Phy-302**  **Title: Thermal Physics-I (Kinetic Theory of Gases)** |
| Thermal physics is important for us because it is caused by or related to heat and temperature. Thermal energy is a useful source of power that can be employed in conjunction with other renewable energy sources. It also provides energy storage, and efficient heating and cooling  alternatives. |
| **Course code- Phy-303**  **Title: Vibrations and Wave Optics-I (Vibrations Free oscillations of system with one degree of freedom)** |
| 1. This paper covers the physical phenomena such as periodic motion, oscillations and waves in different parts of physics as in mechanics, acoustics, electricity and especially in optics. 2. The optics covers all fundamental chapters of basic university course. |
| **Course code- Phy-304**  **Title: Quantum Mechanics** |
| With the help of these topics’ students can understand the behaviour of matter as well as light. The wave function in quantum mechanics can be used to illustrate the wave properties of a particle. |
| **Course code- Phy-305**  **Title: Mathematics III** |
| The topics covered under Mathematics III are sequence, series and probability which help the students to understand the optics, thermodynamics, statistics etc. |
| **Course code- Phy-306**  **Title: Computer Fundamentals and Programming-I** |
| The topic improves the knowledge of students for fundamental computer and programming language which is building block of the interface between the human and computer. |
| **Semester –IV** |
| **Course code- Phy-401**  **Title: Mathematical Physics IV** |
| Specialfunctions are particular mathematical functions that have more or less established names. |
| **Course code- Phy-402**  **Title: Thermal Physics-II (Thermodynamics)** |
| 1. To understand the concept of thermodynamics students, require the knowledge of how the microscopic world operates. 2. Thermodynamics gives the knowledge of heat engines, power plants, chemical reactions, refrigerators, and many more important concepts that the world we live in today |

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| relies on. |
| **Course code- Phy-403**  **Title: Vibration and Wave Optics-II** |
| The unit ‘vibration and wave optics II’ covers the topic diffraction phenomena which helps to understand the behaviour of wave optics, which further helps to solve the scientific concept in Experiments. |
| **Course code- Phy-404**  **Title: Atomic and Nuclear Physics** |
| 1. Atomic Physics underlies the study of Astrophysics and Solid-State Physics. It has led to important applications in medicine, communications, lasers etc., as well as still providing a testing ground for Quantum Theory and its derivatives, Quantum Electrodynamics. 2. Nuclear physics is an important pursuit because the study of the nucleus of the atom is at the heart of our ability to understand the universe. It provides answers and expands our knowledge of both the infinitely small and the extremely large object. |
| **Course code- Phy-405**  **Title: Mathematics IV** |
| With the help of the topics covered under Mathematics IV students can understand the importance of discrete and continuous distribution. |
| **Course code- Phy-406**  **Title: Computer Fundamentals and Programming-II (Errors and Iterative Methods. Truncation and round-off errors)** |
| Numerical analysis gives the knowledge of tools to tackle even very complicated equations to solve the physics problems and with the help of approximation the numerical problems can be solved with in short time. |
| **Semester –V** |
| **Course code- Phy-501**  **Title: Mathematical Physics (Linear Vector Spaces and Matrices)** |
| The mathematical physics covers the abstract structure (vector space, group, rings, fields, etc.) which helps students to understand mechanics. |
| **Course code- Phy-502**  **Title: Electromagnetic Theory-I** |
| Electromagnetic Theory is an essential basis for understanding the devices, methods, and systems used for electrical energy. Both electric and magnetic fields are defined in terms of the forces they produce. |
| **Course code- Phy-503**  **Title: Statistical Physics-I** |
| It helps us to understand the concept of moving atoms, entropy and thermodynamic probability. |
| **Course code- Phy-504**  **Title: Physics Materials I (Crystal Structure)** |
| This unit carries the information about solids and crystalline states of solid. It gives the knowledge of crystal structure and their properties. |

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| **Course code- Phy-505**  **Title: Electronics Devices : Physics and Applications - I** |
| It improves the knowledge of students about electronic devices and their applications. |
| **Course code- Phy-506**  **Title: Nano Physics** |
| It helps the students to understand the dimension dependent variations in the properties of nano particles. |
| **Semester –VI** |
| **Course code- Phy-601**  **Title: Mathematical Physics** |
| Actually, mathematic is the backbone of physics or we can say basics tool to understand the physics. The topics covered in this unit help to understand the conversion of linear spaces to momentum and transformation of coordinates. |
| **Course code- Phy-602**  **Title: Electromagnetic Theory- II** |
| This unit gives the knowledge about the polarization and waveguide which helps to understand the phenomena related to electromagnetic rays. |
| **Course code- Phy-603**  **Title: Statistical Physics II** |
| This unit gives the idea about how the three statistics change when particles occupy in a system which consists of several energy levels (and each energy level could also have several energy states). This unit also helps to understand the difference between fermions and bosons. |
| **Course code- Phy-604**  **Title: Physics of Materials II** |
| The topics covered in this unit help to understand the behaviour of materials like ferroelectric, ferromagnetic, paraelectric, etc and how we can use these materials according to their properties. |
| **Course code- Phy 605**  **Title: Electronics Devices** |
| This unit is used to aware the students about electricity-based devices used in daily life and scientific experiments which help to understand the mechanism of Instruments. |
| **Course code- Phy-606**  **Title: Nano Technology** |
| Nanotechnology enhances the knowledge of students about nano- particles which is used in various fields of food science and food microbiology, including food processing, food packaging, functional food development, food safety, detection of food borne pathogens, and shelf-life extension of food and/or food products. |

**B. Com Vocational**

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| **Semester –I** |
| **Course Code: C101**  **Title: Financial Accounting** |
| 1. Apply quantitative skills to help analyse and solve business problems and to take advantage of business opportunities. 2. Demonstrate an appropriate mastery of the knowledge, skills and tools of financial accounting principles and managerial accounting principles. 3. Demonstrate an appropriate mastery of the knowledge, skills and tools of cost accounting. |
| **Course code- C102**  **Title: Business Mathematics** |
| 1. **Understanding Mathematical Concepts in Business Contexts:** Students will develop a clear understanding of basic mathematical concepts and their applications in business scenarios, including algebra, calculus, and financial mathematics. 2. **Problem Solving with Mathematical Models:** Students will be able to solve real-world business problems using mathematical models such as linear equations, optimization, and basic statistical methods. 3. **Application of Mathematical Techniques in Finance:** Students will learn to apply mathematical concepts in solving financial problems such as interest calculation (simple and compound interest), annuities, loan amortization, and investment analysis |
| **Course code- C103**  **Title: Business Economics** |
| 1. Understanding Economic Principles: Students gain a solid understanding of fundamental economic concepts, such as demand and supply, elasticity, cost, revenue, and market structures. 2. Analyzing Business Environments: Ability to analyze micro-economic and macroeconomic factors influencing business decisions, including consumer behavior, production, and pricing strategies. 3. Decision-Making Skills: Development of analytical skills to make informed business decisions based on economic data, trends, and market conditions. 4. Market and Industry Analysis: Capability to evaluate market competition, identify market dynamics, and suggest appropriate business strategies. 5. Macroeconomic Policy Insights: Understanding the role of government policies, monetary systems, and global trade on business operations and economic growth. 6. Practical Application: Students learn to apply economic theories to real-world business problems, enhancing problem-solving and critical thinking. 7. Strategic Thinking: Preparing students to assess long-term economic scenarios and plan strategies for sustainable business growth. |
| **Course code- C104**  **Title: Business Management** |
| 1. Demonstrates comprehensive knowledge and understanding of various areas of management. 2. Familiarize students with the basic concepts and principles of management. 3. Exhibit knowledge and skill required to administer the affairs of the management. |
| **Course code- C105**  **Title: Marketing Communication** |
| 1. Understanding of Marketing Communication Concepts: Students will gain a solid understanding of the key concepts, theories, and frameworks related to marketing communication, such as the marketing communication mix (advertising, public relations, sales promotion, personal selling, direct marketing, digital media). 2. Development of Integrated Marketing Communication (IMC) Strategies:Students will learn how to create cohesive and integrated communication strategies that align with overall business goals and resonate with target audiences across multiple platforms. 3. Application of Consumer Behavior Insights: Students will be able to apply insights from consumer behavior to design messages that influence consumer attitudes, perceptions, and purchasing decisions. |
| **Course code- C106**  **Title: Basic Marketing** |
| 1. Apply key marketing theories, frameworks and tools to solve Marketing problems**.** 2. Utilise information of a firm's external and internal marketing environment to identify and prioritise appropriate marketing strategies. 3. Exercise critical judgement through engagement and reflection with existing marketing literature and new developments in the marketing environment**.** 4. Critically evaluate the marketing function and the role it plays in achieving organisational success both in commercial and non-commercial settings. 5. Evaluate and act upon the ethical and environmental concerns linked to marketing activities. |
| **Semester –II** |
| **Course code- C202**  **Title: Business Mathematics** |
| 1. Understanding Mathematical Concepts in Business Contexts: Students will develop a clear understanding of basic mathematical concepts and their applications in business scenarios, including algebra, calculus, and financial mathematics. 2. Problem Solving with Mathematical Models: Students will be able to solve real-world business problems using mathematical models such as linear equations, optimization, and basic statistical methods. 3. Application of Mathematical Techniques in Finance:Students will learn to apply mathematical concepts in solving financial problems such as interest calculation (simple and compound interest), annuities, loan amortization, and investment analysis |
| **Course code- C203**  **Title: Business Economics** |
| 1. Understanding Economic Principles: Students gain a solid understanding of fundamental economic concepts, such as demand and supply, elasticity, cost, revenue, and market structures. 2. Analyzing Business Environments: Ability to analyze micro-economic and macroeconomic factors influencing business decisions, including consumer behavior, production, and pricing strategies. 3. Decision-Making Skills: Development of analytical skills to make informed business decisions based on economic data, trends, and market conditions. 4. Market and Industry Analysis: Capability to evaluate market competition, identify market dynamics, and suggest appropriate business strategies. 5. Macroeconomic Policy Insights: Understanding the role of government policies, monetary systems, and global trade on business operations and economic growth. 6. Practical Application: Students learn to apply economic theories to real-world business problems, enhancing problem-solving and critical thinking. 7. Strategic Thinking: Preparing students to assess long-term economic scenarios and plan strategies for sustainable business growth. |
| **Semester -III** |
| **Course code- C301**  **Title: Corporate Accounting** |
| 1. Acquire the knowledge in company accounts such as meaning of a company, characteristics of a company, definition of shares, debentures, underwriting and goodwill, types of shares, bonus share and right share . 2. Understand the accounting treatment in issue of shares at par premium and discount, issues of debenture, calculation of goodwill and shares and liquidator’s statement of affairs. 3. Develop the application skills to computation of pro-rate allotment, redemption of preference shares, profit and loss account and preparation of balance sheet of companies (new format). 4. Familiarize the analytical skills in corporate accounting, calculation of underwriting commission, redemption of debentures in sinking fund method, valuation of shares and liquidators final statement. 5. Evaluate the techniques for redemption of preference share, valuation of goodwill and shares. 6. Gain confidence in preparation of company accounts in new format, various methods for calculating goodwill and shares. |
| **Course code- C302**  **Title: Business Statistics** |
| 1. To understand the basic of statistics- concept of population and sample and to use frequency distribution to make decisions. 2. Acquiring the knowledge on data collection and various statistical elementary tools. 3. Gain knowledge about Measures of Central tendency. 4. Familiarize with the methods of measuring Dispersion. 5. Analyze the concept of correlation, regression analysis. |
| **Course code- C303**  **Title: Business Regulatory Framework** |
| 1. To provide brief knowledge about Indian Contract Act, 1872 and its meaning and elements. 2. To acquaint the students with concept of different elements of a valid contract. 3. To provide knowledge about the concept of Breach of Contract, remedies and damages etc. 4. To develop the idea of Contingent Contracts, Indemnity and Guarantee, Contract of Bailment. 5. To create awareness about rights, duties of consumer and scope of Consumer Protection Act. |
| **Course code- C304**  **Title: Corporate Law** |
| 1. Gain knowledge of the laws governing the formation, operation, and dissolution of corporate entities. 2. Understanding of corporate governance. 3. Learn to identify and manage legal risks associated with business operations. 4. Acquire skills in drafting, analyzing, and negotiating corporate contracts and agreements. |
| **Course code- C305**  **Title: Understanding Consumer Behaviour** |
| 1. Students will gain a comprehensive understanding of consumer behaviour, including the psychological, social, and cultural factors that influence consumer decisions. 2. Students will be able to explain the basic concepts and models of consumer behavior. 3. Students will be able to analyze the decision-making processes of consumers and the factors influencing their choices. 4. Help students in Assessing the effectiveness of marketing campaigns in influencing consumer behaviour and decision-making |
| **Course code- C306**  **Title: Basics of Retailing** |
| 1. Understand Retail Concepts: Explain the fundamental concepts, terminologies, and principles of retailing. 2. Analyze Retail Operations: Demonstrate knowledge of key retail operations such as inventory management, merchandising, store layout, and customer service. 3. Recognize Retail Formats: Differentiate between various retail formats (e.g., department stores, supermarkets, e-commerce) and their roles in the industry. 4. Evaluate Consumer Behaviour in Retail: Understand the factors influencing onsumer choices in retail settings and their impact on retail strategies. 5. Develop Merchandising Skills: Apply basic merchandising techniques to effectively present and sell products. 6. Understand Retail Supply Chains: Explain the role of supply chain management in ensuring the smooth functioning of retail operations. |
| **Semester-IV** |
| **Course code- C401**  **Title: Corporate Accounting** |
| 1. Acquire the knowledge in company accounts such as meaning of a company, characteristics of a company, definition of shares, debentures, underwriting and goodwill, types of shares, bonus share and right share . 2. Understand the accounting treatment in issue of shares at par premium and discount, issues of debenture, calculation of goodwill and shares and liquidator’s statement of affairs. 3. Develop the application skills to computation of pro-rate allotment, redemption of preference shares, profit and loss account and preparation of balance sheet of companies (new format). 4. Familiarize the analytical skills in corporate accounting, calculation of underwriting commission, redemption of debentures in sinking fund method, valuation of shares and liquidators final statement. 5. Evaluate the techniques for redemption of preference share, valuation of goodwill and shares. 6. Gain confidence in preparation of company accounts in new format, various methods for calculating goodwill and shares. |
| **Course code- C402**  **Title: Business Statistics** |
| 1. To understand the basic of statistics- concept of population and sample and to use frequency distribution to make decisions. 2. Acquiring the knowledge on data collection and various statistical elementary tools. 3. Gain knowledge about Measures of Central tendency. 4. Familiarize with the methods of measuring Dispersion. 5. Analyze the concept of correlation, regression analysis |
| **Course code- C403**  **Title: Business Regulatory Framework** |
| 1. To provide brief knowledge about Indian Contract Act, 1872 and its meaning and elements. 2. To acquaint the students with concept of different elements of a valid contract. 3. To provide knowledge about the concept of Breach of Contract, remedies and damages etc. 4. To develop the idea of Contingent Contracts, Indemnity and Guarantee, Contract of Bailment. 5. To create awareness about rights, duties of consumer and scope of Consumer Protection Act. |
| **Course code- C404**  **Title: Ccorporate Law** |
| 1. Gain knowledge of the laws governing the formation, operation, and dissolution of corporate entities. 2. Understanding of corporate governance. 3. Learn to identify and manage legal risks associated with business operations. 4. Acquire skills in drafting, analyzing, and negotiating corporate contracts and agreements. |

M.A. Hindi

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| **Semester –I** |
| **Course Code: 16HND21C1**  **Title:** आधगहिक हिोंदी कहवता |
| **1.** आर्ुनिक काल के प्रमुख कनवय ों की कनविाओों की भाव एवों निल्पगि िािकारी प्राप्त करिा।  **2.** प्रसाद एवों निराला आनद छायावाद के प्रनिनिनर् कनवय ों की कनविाओों के माध्यम से छायावाद की नविेषिाओों की िािकारी प्राप्त करिा। |
| **Course code- 16HND21D1**  **Title:** कबीर दास |
| **1.** महाि कनव कबीरदास के काव्य के माध्यम से निगुगण भद्धक्त के स्वरूप ,ज्ञाि ,प्रेम और समाि की सुप्त चेििा क िगािे की िािकारी प्राप्त करिा  **2.** कबीरदास के काव्य िारा उिके दािगनिक नचोंिि उिकी भद्धक्त भाविा का ज्ञाि प्राप्त करिा  **3.** 5. महाि कनव कबीरदास की महत्ता क समझिा। |
| **Course code- 16HND21C2**  **Title:** आधगहिक गद्य साहित्य |
| **1.** आर्ुनिक गद्य सानहत्य िई स च और िए दृनिक ण क नवकनसि करिा है।  **2.** मुोंिी प्रेमचोंद रनचि ग दाि उपन्यास में कृ षक िीवि की युगीि समस्याओों के निरूपण िारा समाि की सोंवेदििीलिा और िई स च क नवकनसि करिा।  **3.** बाणभट्ट की आत्मकथा में इनिहास और कल्पिा के मनणकाोंचि सोंय ग िारा युगीि साोंस्कृ निक चेििा, सामानिक वािावरण ,प्रेम भाविा व युगीि समस्याओों से अवगि करवाकर पुििागगरण के  नलए प्रेररि करिा है।  **4.** अिीि के चलनचत्र समाि के दीि- दनलि व उपेनक्षि ल ग ों के प्रनि सहािुभूनि क नवकनसि करिा है।  **5.** कथािोंर में सोंकनलि कहानियाों, कहािी -सानहत्य के एक सोंपूणग नवकासक्रम क हमारे सामिे प्रस्तुि कर सानहद्धत्यक पररवेि और मिुष्य के बीच के सोंबोंर् क बखूबी समझािी हैं। |
| **Course code- 16HND21C3**  **Title:** हिोंदी साहित्य का इहतिास |
| **1.** इनिहास का सोंबोंर् अिीि से ह िा है और इसमें वास्तनवक घटिाओों और वृत्तान्त ों का  **2.** सनिवेि ह िा है। इनिहास-दिगि काल के माध्यम से सोंस्कृ नि का अध्ययि करिा है।  **3.** इनिहास मािवीय सर कार ों की व्याख्या करिे वाली एक नवर्ा है, ि अिीि के सन्दभो से  **4.** आगि क प्रभानवि करिी है।  **5.** नहन्दी सानहत्य के इनिहास के अध्ययि का उद्देश्य भी यही है नक वह हमें ियी व्याख्या, ियी  **6.** प्रेरणा और ियी दृनि से आगि के आल कपूणग पथ क प्रिस्त करिा है।  **7.** 14. मािव-समाि की सम्पूणग गनि िथा पररविगि का मूल् ों के सोंदभग में भी अध्ययि करिा है। |
| **Course code- 16HND21C4**  **Title:** भाषा हवज्ञाि और हिोंदी भाषा |
| **1.** भाषा एवों भाषा नवज्ञाि की पररभाषा एवों स्वरूप की सैद्धाोंनिक िािकारी |

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| **2.** स्विनवज्ञाि की पररभाषा एवों स्वरूप िथा वाक उत्पादि प्रनक्रया का ज्ञाि  **3.** रूपनवज्ञाि, वाक्य नवज्ञाि एवों अथग नवज्ञाि की सैद्धाोंनिक िािकारी  **4.** नहन्दी भाषा का इनिहास एवों नवकास-क्रम का ज्ञाि करािा।  **5.** नलनप नवज्ञाि की सैद्धाोंनिक िािकारी देिे हुए नहन्दी प्रचार-प्रसार में व्यद्धक्तय ों िथा  **6.** सोंथथाओों के य गदाि की िािकारी। |
| **Course code- 16HND21D3**  **Title:** सूरदास |
| **1.** िुद्धािैिवाद दिगि से नवद्यानथगय ों क पररनचि करवािा।  **2.** िारी स्वािन्त्र्य की िैसी प्रबल लालसा कृ ष्ण भक्त कनवय ों और नविेषिः सूरदास में नमलिी है वैसी अन्यत्र दुलगभ है अिः िारी समिा पर बल देिे हेिु सूरदास क पढ़ाया िा रहा है।  **3.** सामानिक समिावाद की थथापिा पर बल है इसनलए समाि मे सकारात्मक भाव पैदा करिे  **4.** के नलए। भद्धक्त भाविा से नवद्यानथगय ों क पररनचि करवािे हेिु। |
| **Semester –II** |
| **Course code- 16HND22C1**  **Title: आधुहिक हििंदी कहवता** |
| **1.** प्रय गवादी एवों प्रगनिवादी कनवय ों की कनविाओों के माध्यम से ित्युगीि काव्य की प्रवृनत्तय ों की  िािकारी प्राप्त करिा।  **2.** आर्ुनिक कालीि नहोंदी कनविा की नवकास परों परा की िािकारी प्राप्त करिा। |
| **Course code- 16HND22D1**  **Title:** कबीर दास |
| **1.** कबीरदास के पद िारा स्त्री नवषयक नचोंिि ,मािविावादी दृनिक ण की िािकारी प्राप्त करिा  **2.** महाि कनव कबीरदास के काव्य के माध्यम से आत्मा और परमात्मा की रहस्यवादी का  **3.** ज्ञाि प्राप्त करिा  **4.** 5. कबीरदास के काव्य िारा कबीरदास की उलटबााँनसय ों की गुढिा का ज्ञाि प्राप्त करिा। |
| **Course code- 16HND22C2**  **Title: आधुनिक गद्य साह त्य** |
| **1.** चोंद्रगुप्त ,आर्े अर्ूरे व आवारा मसीहा िाटक ों िारा ऐनिहानसक प्रसोंग ों ,महािगर ों में रहिे वाले मध्यमवगीय िीवि की नवसोंगनिय ों एवों नवडोंबिाओों व व्यद्धक्तत्व नवकास के सही अथग क समझाया गया है।  **2.** निबोंर् के माध्यम से नवषय वस्तु क अनर्क गहराई से समझिे की स च क नवकनसि करिा है। |
| **Course code- 16HND22C3**  **Title: नहंदी सानहत्य का इनतहास** |
| **1.** इनिहास का सोंबोंर् अिीि से ह िा है और इसमें वास्तनवक घटिाओों और वृत्तान्त ों का  **2.** सनिवेि ह िा है। इनिहास-दिगि काल के माध्यम से सोंस्कृ नि का अध्ययि करिा है।  **3.** इनिहास मािवीय सर कार ों की व्याख्या करिे वाली एक नवर्ा है, ि अिीि के सन्दभो से  **4.** आगि क प्रभानवि करिी है।  **5.** नहन्दी सानहत्य के इनिहास के अध्ययि का उद्देश्य भी यही है नक वह में ियी व्याख्या, ियी  **6.** प्रेरणा और ियी दृनि से आगि के आल कपूणग पथ क प्रिस्त करिा है।  **7.** आनदकाल से आर्ुनिक काल िक क्रमबद्ध रूप में नवद्यानथगय ों क िािकारी देिा। |

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| **8.** मािव-समाि की सम्पूणग गनि िथा पररविगि का मूल् ों के सोंदभग में भी अध्ययि करिा है। |
| **Course code- 16HND22C4**  **Title:** भाषा हवज्ञाि और हिोंदी भाषा |
| **1.** नहन्दी भाषा के इनिहास से पररनचि करािा।  **2.** नहन्दी के नवनवर् रूप ों से पररनचि करािा।  **3.** नहन्दी की नवनभि ब नलय ों से पररनचि करािा।  **4.** 14. देविागरी नलनप के इनिहास से पररनचि करािा। |
| **Course code- 16HND22D3**  **Title:** हवशेष रचिाकार**:** सूरदास |
| **1.** िुद्धािैिवाद दिगि से नवद्यानथगय ों क पररनचि करवािा।  **2.** िारी स्वािन्त्र्य की िैसी प्रबल लालसा कृ ष्ण भक्त कनवय ों और नविेषिः सूरदास में नमलिी  **3.** है वैसी अन्यत्र दुलगभ है अिः िारी समिा पर बल देिे हेिु सूरदास क पढ़ाया िा रहा है।  **4.** सामानिक समिावाद की थथापिा पर बल है इसनलए समाि मे सकारात्मक भाव पैदा करिे  **5.** के नलए।  **6.** 18. भद्धक्त भाविा से नवद्यानथगय ों क पररनचि करवािे हेिु। |
| **Semester –III** |
| **Course code- 17HND23C1**  **Title:** प्राचीि एवों मध्यकालीि काव्य |
| **1.** पृथ्वीराि रास के माध्यम से आनदकालीि रास काव्य की प्रवृनत्तय ों की िािकारी प्राप्त करिा।  **2.** काव्य िगि की महाि कनव कबीरदास के काव्य िारा काव्य दिगि क आत्मसाि करिा। |
| **Course code- 17HND23DB3**  **Title:** सूर्यकाोंत हत्रपाठी हिराला |
| **1.** निराला की कनविाओों के माध्यम से ित्युगीि पररद्धथथनिय ों का आकलि करिा।  **2.** छायावादी एवों प्रगनिवादी कनविाओों के सोंदभग में निराला का य गदाि। |
| **Course code- 17HND23C3**  **Title:** भारतीर् साहित्य |
| **1.** भारिीय सानहत्य के अध्ययि िारा रािर ीयिा का भाव उत्पि कर भारिीय समाि में सामोंिस्य उत्पि करिा है।  **2.** बाोंग्ला सानहत्य इनिहास के नवकास व परों परा का ब र् करवािा है। |
| **Course code- 17HND23DB2**  **Title:** प्रेमचोंद |
| **1.** महाि उपन्यासकार प्रेमचोंद के नहोंदी सानहत्य क य गदाि का पररचय करवािा है।  **2.** प्रेमचोंद की रचिाएों समाि, राििीनि ,सोंस्कृ नि ,सानहत्य एवों भाषा सोंबोंर्ी उिके नवचार ों पर प्रकाि डालिी हैं। |
| **Course code- 17HND23DA5**  **Title:** िाटक और रों गमोंच |
| **1.** र्मगवीर भारिी के अोंर्ा युग ,सवेश्वर दयाल िमाग के बकरी , एक कों ठ नवषपायी और वकग सत्य हररश्चन्द्र िाटक के माध्यम से समाि के बदलिे पररदृश्य, मूल् ों िथा नवकास की परों परा का ज्ञाि प्राप्त करिा |

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| **2.** नहोंदी िाटक एवों रों गमोंच के उद्भव और नवकास ,उिके अोंिसंबोंर् िािकारी प्राप्त करिा, नहन्दी  िाटक एवों रों गमोंच की सैद्धाोंनिक अवर्ारणा का ज्ञाि प्राप्त करिा । |
| **Course code- 17HND23C2**  **Title:** भारतीर् काव्यशास्त्र |
| **1.** भारिीय काव्यिास्त्र का पररचय दे िा  **2.** भारिीय काव्यिास्त्र के नवकासक्रम का पररचय देिा ।  **3.** भारिीय काव्यिास्त्र का महत्त्व और सानहत्य में उसकी उपादेयिा  **4.** भारिीय काव्यिास्त्र के नसद्धान्त ों और सैद्धाद्धन्तक अवर्ारणा क समझािा  **5.** भारिीय काव्यिास्त्र में साम्य वैषम्य और उसके कारण ों का ज्ञाि करािा।  **6.** छात्र ों में समीक्षात्मक दृनि पैदा करिा । |
| **Course code- 17HND23DA1**  **Title: प्रयोनि मूलक ह नंंं दी** |
| **1.** प्रय ििमूलक नहन्दी के सैद्धाोंनिक स्वरूप का ज्ञाि  **2.** अिुवाद नवज्ञाि की सैद्धाोंनिक िािकारी और महत्त्व  **3.** ििसोंचार माध्यम ों की आवश्यकिा और लेखि की नवनिि िैली का ज्ञाि ।  **4.** कों प्यूटर प्रय ग की सैद्धाोंनिक-व्यावहाररक िािकारी और नहन्दी प्रय ग की नवनवर् नवनर्य ों का ज्ञाि करािा।  **5.** रािभाषा नहन्दी का ज्ञाि।।  **6.** कायागलयी रािभाषा के प्रमुख प्रकायों की िािकारी। |
| **Semester –IV** |
| **Course code- 17HND24C1**  **Title:** प्राचीि एवों मध्यकालीि काव्य |
| 1. पृथ्वीराज रास के माध्यम से आहदकालीि रास काव्य की प्रवृहिर् ों की जािकारी प्राप्त करिा।  2. काव्य जगत की मिाि कहव कबीरदास के काव्य द्वारा काव्य दशयि क आत्मसात करिा। |
| **Course code- 17HND24DB3**  **Title:** सूर्यकाोंत हत्रपाठी हिराला |
| **1.** निराला की कनविाओों के माध्यम से ित्युगीि पररद्धथथनिय ों का आकलि करिा।  **2.** छायावादी एवों प्रगनिवादी कनविाओों के सोंदभग में निराला का य गदाि। |
| **Course code- 17HND24C3**  **Title:** भारतीर् साहित्य |
| **1.** भारतीर् साहित्य के अध्यर्ि द्वारा राष्ट्र ीर्ता का भाव उत्पन्न कर भारतीर् समाज में सामोंजस्य उत्पन्न करता िै।  **2.** बाोंग्ला साहित्य इहतिास के हवकास व परों परा का ब ध करवाता िै। |
| **Course code- 17HND24DB2**  **Title:** प्रेमचोंद |
| 7. मिाि उपन्यासकार प्रेमचोंद के हिोंदी साहित्य क र् गदाि का पररचर् करवाता िै।  8. प्रेमचोंद की रचिाएों समाज, राजिीहत ,सोंस्कृ हत ,साहित्य एवों भाषा सोंबोंधी उिके हवचार ों पर प्रकाश डालती िैं। |
| **Course code- 17HND24DA5**  **Title:** िाटक और रों गमोंच |

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| **1.** धमयवीर भारती के अोंधा र्गग ,सवेश्वर दर्ाल शमाय के बकरी , एक कों ठ हवषपार्ी और वकय सत्य  िररिन्द्र िाटक के माध्यम से समाज के बदलते पररदृश्य, मूल्य ों तथा हवकास की परों परा का ज्ञाि प्राप्त करिा  **2.** 10. हिोंदी िाटक एवों रों गमोंच के उद्भव और हवकास ,उिके अोंतसंबोंध जािकारी प्राप्त करिा , हिन्दी  िाटक एवों रों गमोंच की सैद्धाोंहतक अवधारणा का ज्ञाि प्राप्त करिा । |
| **Course code- 17HND24C2**  **Title:** भारतीर् काव्यशास्त्र |
| **1.** भारतीर् काव्यशास्त्र का पररचर् दे िा  **2.** भारतीर् काव्यशास्त्र के हवकासिम का पररचर् देिा ।  **3.** भारतीर् काव्यशास्त्र का मित्त्व और साहित्य में उसकी उपादेर्ता  **4.** भारतीर् काव्यशास्त्र के हसद्धान् ों और सैद्धाक्तन्क अवधारणा क समझािा  **5.** भारतीर् काव्यशास्त्र में साम्य वैषम्य और उसके कारण ों का ज्ञाि करािा।  **6.** 16. छात्र ों में समीक्षात्मक दृहष्ट् पैदा करिा । |
| **Course code- 17HND24DA1**  **Title:** प्रर् जि मूलक हिोंदी |
| **1.** प्रर् जिमूलक हिन्दी के सैद्धाोंहतक स्वरूप का ज्ञाि  **2.** अिगवाद हवज्ञाि की सैद्धाोंहतक जािकारी और मित्त्व  **3.** जिसोंचार माध्यम ों की आवश्यकता और लेखि की हवहशष्ट् शैली का ज्ञाि ।  **4.** कों प्यूटर प्रर् ग की सैद्धाोंहतक-व्याविाररक जािकारी और हिन्दी प्रर् ग की हवहवध हवहधर् ों का ज्ञाि करािा।  **5.** राजभाषा हिन्दी का ज्ञाि।।  **6.** कार्ायलर्ी राजभाषा के प्रमगख प्रकार्ों की जािकारी। |

M.A. Economics

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| **Semester –I** |
| **Course Code: 16ECO21C1**  **Title: Micro Economics-I** |
| 1. It will help students in understanding the behaviour of individuals and small organizations in making decisions on the allocation of limited resources. 2. It will result in equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework. 3. It will result in understanding the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty. |
| **Course code- 16ECO21C2**  **Title: Macro Economics-I** |
| 1. To make student aware of the basic theoretical framework underlying the field of macroeconomics. 2. It helps students to study the aggregates and to provide overall idea about national |

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| economic policies and its implications. |
| **Course code- 16ECO21C3**  **Title: Economics of Growth and Development-I** |
| 1. It helps in developing understanding of the students related to different sectors of Indian Economy 2. Students will be able to understand how planning and infrastructure support can develop an economy. |
| **Course code- 16ECO21C4**  **Title: Mathematics for Economists-I** |
| 1. The student is exposed to economic concepts in mathematical format through simple illustrations and prepares the ground for more scientific study. 2. In order to understand economic problems clearly, the knowledge of quantitative techniques in the area of mathematics and statistics is very essential. This course is meant to train the student in this direction. |
| **Course code- 16ECO21C5**  **Title: Statistical Methods-I** |
| 1. This course will help the students understand the issues regarding data collection, processing organizing and presentation and the issues involved therein. 2. Students will understand the basic concepts of descriptive and inferential statistics. 3. It will help students understand situations radically and solve them. |
| **Semester –II** |
| **Course code- 16ECO22C1**  **Title: Micro Economics-II** |
| 1. It will familiarize the students with different types of economic models. 2. CO2 Students will get to know the different market structure. 3. CO3 It will provide information to the students about the distribution of income and wealth. |
| **Course code- 16ECO22C2**  **Title: Macro Economics-II** |
| 1. It will help the students to apply supply and demand models to analyse responses of market to external events. 2. It will help students to describe ISLM model. 3. The course will illustrate the role of financial institutions in the economy. 4. Students will be able to explain concept of gross domestic product, inflation and Unemployment. |
| **Course code- 16ECO22C3**  **Title: Economics of Growth and Development-II** |
| 1. Impart understanding of the basic assumption and features of economic growth and development. 2. Provide understanding of the relevance of historical perspective of economic growth. 3. To impart theoretical knowledge about the concepts of poverty, inequality and development gap. 4. To explore diverse dimension and measures of development, as well as the application of microeconomic analysis to issues of development in poor countries, including the study of |

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| household decisions and the analysis of institutions and norms influencing development. |
| **Course code- 16ECO22C4**  **Title: Mathematics for Economists-II** |
| 1. The course will introduce the concepts of differentiation and integration and application in economics. 2. The course will impart knowledge of matrices and determinants to the students and their applications in economics. 3. The course will form the base for higher studies in research work. |
| **Course code- 16ECO22C5**  **Title: Statistical Methods-II** |
| 1. To make the students familiar with the terminology of statistical terms: Population, Sample, Parameter, Statistic, and Descriptive Statistic. 2. 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. 3. To provide an understanding for the students on statistical concepts to include measurements of location and dispersion, Probability, Probability Distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting and to make them familiar with binomial, Poisson, normal and log-normal probability distributions. |
| **Course code- 16ECOO2**  **Title: Basics of Economics (Open Elective Paper)** |
| 1. The students would know about the consumer behaviour. 2. This course will impart complete knowledge of all concepts related to demand. 3. The students would know about all concepts related to cost. |
| **Course code- 16ECO22SO2**  **Title: Managerial Economic** |
| 1. The students would be trained about economic application of economic theory. 2. It would facilitate students learning by allowing students to see how economics can be used in decision making. 3. It would help students in knowing how managerial economics can be treated as a special branch of economics. |
| **Semester –III** |
| **Course code- 17ECO23C1**  **Title: Indian Economy-I** |
| 1. To have knowledge about the issues in Indian Economy like planning, poverty, unemployment etc. 2. To know about relationship between monetary policy, fiscal policy and economic development. 3. To know about framework of policy making for the development of Indian economy 4. To know about the preparation of budgeting and its utilization for Indian economy. |
| **Course code- 17ECO23C2**  **Title: International Trade and Finance-I Papers** |
| **1.** Students would know the country’s position regarding international trade, payments and |

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| foreign exchange.   1. The students would learn the methods regarding improvement in terms of trade, international debt and balance of payments positions. 2. Students would 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. |
| **Course code- 17ECO23D1**  **Title: Agricultural Economics-I (Discipline Specific Course)** |
| 1. Course provides knowledge agricultural background , farm and agro business activities, agri finance and management. 2. It introduces learner applied part of economics instead theoretical, which deals with allocation of land under various crops, specialization, diversification and other policy amplifications. 3. Course offer relevant production and various techniques to understand agri production, cost benefit analysis and enhance learner to make frontier-production function at least cost. |
| **Course code- 17ECO23D2**  **Title: Mathematical Economics-I Papers** |
| 1. Students would learn how to deal economic problems with the help of mathematics. 2. Students would know different types of economic functions like utility functions, production functions etc. 3. It will impart knowledge about the use of Lagrange multiplier methods in various economic problems of maximization and minimization. |
| **Course code- 17ECO23D3**  **Title: Econometrics –II** |
| 1. Course work provides a path to follow research in general area of economics and business. 2. Students would 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. 3. To familiarise the students to study economics with an applied approach. |
| **Course code- 17ECO23D4**  **Title: M.A. Financial Institutions and Markets - I** |
| **7.** Students would have knowledge regarding money market, capital market, stock exchange  i.e. Indian Financial System which is the backbone of the country. CO2: To familiar students about the relationship between financial development and economic development.  **8.** To impart knowledge to students about controller of financial system, e.g. RBI, SEBI, IRDA and TERI. |
| **Course code- 17ECO23D5**  **Title: Public Economics-I** |
| 1. The students would learn of the feature the federal structure and financial relationship among them. 2. The course would develop the analytical ability of students to distinguish between beneficial and detrimental effects of a government policy and their effect on |

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| macroeconomics framework of an economy. CO3: It will helps students to critically analyse the fiscal reforms and policy choices of the government in developed and developing countries. |
| **Course code- 17ECO23D6**  **Title: Urban Economics-I Papers: Course work in Urban Economics** |
| 1. The students are trained to comprehend issue and opportunities associated with urbanization. They are better suited to research and administrative job that require understanding of finer aspects of an increasing globalization and urbanizing world. 2. It will impart a more calibrated understanding of economic phenomena and urban issues. 3. It will familiarize about the critique policies in world with a majority of population already living in urban area. |
| **Course code- (16ECOO1)**  **Title: Principles of Economics (Open Elective Paper)** |
| 1. Students would know about the economy of India since British period to independence of India. 2. Student would know about the functioning of economic system. 3. It will impart knowledge about the trends and pattern in the structure of population and agriculture overtime. |
| **Course code- (17ECO23SO1)**  **Title: Haryana Economy** |
| 1. Students would know about the economy of India since British period to independence of India. 2. Student would know about the functioning of economic system. 3. It will impart knowledge about the trends and pattern in the structure of population and agriculture overtime. |
| **Semester –IV** |
| **Course code- 17ECO24C1**  **Title: Indian Economy-II** |
| 1. To have knowledge about the issues in Indian Economy like planning, poverty, unemployment etc. CO2: To know about relationship between monetary policy, fiscal policy and economic development. 2. To know about framework of policy making for the development of Indian economy. 3. To know about the preparation of budgeting and its utilization for Indian economy. |
| **Course code- 17ECO24C2**  **Title: International Trade and Finance-II** |
| 1. Students would know the country’s position regarding international trade, payments and foreign exchange. 2. The students would learn the methods regarding improvement in terms of trade, international debt and balance of payments positions. 3. Students would 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. |
| **Course code- 17ECO24D1**  **Title: Agricultural Economics-II (Discipline Specific Course))** |

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| 1. Course provides knowledge agricultural background, farm and Agro business activities, agri finance and management. 2. It introduces learner applied part of economics instead theoretical, which deals with allocation of land under various crops, specialization, diversification and other policy amplifications. 3. Course offer relevant production and various techniques to understand Agri production, cost benefit analysis and enhance learner to make frontier-production function at least cost. |
| **Course code- 17ECO24D2**  **Title: Mathematical Economics-II (Discipline Specific Course)** |
| 1. The course would help the students to meet the needs of those who have a strong quantitative background wishing to study economics. 2. The advance and technically rigorous nature of course would serve as an excellent foundation for students for studying economic with the help of mathematical tools. 3. To familiarise the students to study economics with the help of mathematics. |
| **Course code- 17ECO24D3**  **Title: Econometrics –II (Discipline Specific Course)** |
| 1. Course work provides a path to follow research in general area of economics and business. 2. Students would 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. 3. To familiarise the students to study economics with an applied approach. |
| **Course code- 17ECO24D4**  **Title: Financial Institutions and Markets-II (Discipline Specific Course)** |
| 1. Course work provides a path to follow research in general area of economics and business. 2. Students would 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. 3. To familiarise the students to study economics with an applied approach |
| **Course code- 17ECO24D5**  **Title: Public Economics-II (Discipline Specific Course)** |
| 1. The students would learn of the feature the federal structure and financial relationship among them. 2. The course would develop 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. 3. It will help students to critically analyse the fiscal reforms and policy choices of the government in developed and developing countries. |
| **Course code- 17ECO24D6**  **Title: Urban Economics-II (Discipline Specific Course)** |
| 1. The students are trained to comprehend issue and opportunities associated with urbanization. They are better suited to research and administrative job that require understanding of finer aspects of an increasing globalization and urbanizing world. 2. It will impart a more calibrated understanding of economic phenomena and urban issues. |

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| **3.** It will familiarize about the critique policies in world with a majority of population already living in urban areas. |

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| **Semester –I** |
| **Course Code: 16MCO21C1**  **Title: Accounting Standards and Financial Reporting** |
| 1. This subject provides detailed insight into accounting regulations and accounting aspects of Companies. 2. To know about Stages and Process of Standards settings by ICAI in India along with Compliance and Applicability of Accounting Standards in India. 3. To understand the difference between Accounting Standard, IFRS, IASB and FASB and also gain knowledge on Convergence of Indian Accounting Standards with IFRS 4. It also covers contemporary issues in accounting i.e., Human Resource Accounting, Corporate Social Reporting, Forensic Accounting and Reporting. Environmental Reporting. |
| **Course code- 16MCO21C2**  **Title: Statistical Analysis for Business** |
| 1. Will enable the students to understand the Correlation and Regression Analysis, Probability Distribution: Binomial, Poisson and Normal Distribution 2. Will learn the Hypotheses testing, Sampling tests – Large and small Sample tests – Z- Test, T-Test. 3. Will help students to understand Parametric and Non-Parametric tests. 4. Will enable the students understand the Association of Attributes, Chi-Square test. |
| **Course code- 16MCO21C3**  **Title: Managerial Economics** |
| 1. Will enable the students understand the meaning and nature of managerial economics and also theories of consumer choice. 2. Will acquaint the students with production and cost functions. 3. Will help students to understand meaning and nature of macroeconomics and the concept of inflation. 4. Will enable the students understand the various macroeconomic indicators. |
| **Course code- 16MCO21C4**  **Title: Computer Applications in Business** |
| 1. To know the basics of Computer System, Computer Software & Hardware and Information processing system. 2. To understand the differences of types of computer systems, input-output devices, storage devices, communication devices, configuration of hardware devices and their applications. 3. To be familiar with Modern network Technologies i.e., LAN, WAN, MAN, E-mail, Internet technologies, World Wide Web and Internet browsing. 4. To get practical learning on M.S. Word, Excel, Power Point, Internet Technology, Applications, manager., control panel, paintbrush, calculator, desk top, my computer,   settings, find, run etc. |

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| **Course code- 16MCO21D1**  **Title: Entrepreneurship Development** |
| 1. To know the basics of Entrepreneurship, Factors & Problems (Operational and Non- Operational) and Obstacles. 2. To understand the Theories of Entrepreneurship, Schumpeter’s, Ducker’s and Walker’s views on Entrepreneur. 3. To learn about the converting business opportunities into reality, feasibility Report and analysis, Entrepreneurial Problems. 4. To be familiar with External Environment Analysis, Venture Capital, entrepreneurship Development Programmes in India. |
| **Course code- 16MCO21D3**  **Title: Principles of Management** |
| 1. To discuss and communicate the evolution of management and how it will affect future managers. 2. To identify and explain the importance of management process and identify some of the key skills required for the contemporary management practices. 3. To have the in-depth understanding of the process of motivation and its various theories. 4. To make the students to practice the process of management functions: Planning, Organising, staffing, directing, and controlling. 5. To know the various leadership styles to anticipate the consequences of each leadership style. |
| **Semester –II** |
| **Course code- 16MCO 22C1**  **Title: Management Accounting** |
| 1. To communicate the major management accounting concepts related to functions of planning, directing, controlling and decision making. 2. To make the students able to use management accounting tools for pricing, budgetary control, cost allocation, and performance evaluation as well as the new developments in management accounting knowledge and technique and how to access cost-benefit analysis. 3. To evaluate the costs and benefits of different conventional and contemporary costing systems. 4. To understand the principles, types, centres, and problems of responsibility accounting and the role of a manager in the process of responsibility accounting. 5. To develop the ability among the students to collect, analyse and communicate quantitative and qualitative information to assist management in making effective planning and controlling. |
| **Course code- 16MCO 22C2**  **Title: Investment Management** |
| 1. Will enable the students comprehend the meaning, nature, scope and types of investments. 2. Will help students understand Capital Market instruments and their operations. 3. Will lend students ability to make valuation of financial securities. 4. Will introduce students to the theoretical paradigms of EMH. 5. Will equip students with skills of fundamental and technical analysis of investments. |

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| **Course code- 16MCO 22C3**  **Title: Financial Management** |
| 1. Will enable the students understand the meaning and nature of financial management and also the concept of cost of capital. 2. Will acquaint the students with the leverages, capital structure and dividend decisions. 3. Will help students to understand the detailed concept of capital budgeting decisions with its various methods and risk analysis pertaining to capital budgeting decisions. 4. Will enable the students understand the concept of corporate and financial restructuring. |
| **Course code- 16MCO22D3**  **Title: Organizational Behaviour** |
| 1. Students will gain a comprehensive understanding of the concept of Organisational Behaviour and Relationship to other fields and Learning. 2. Students will understand about the Attitude, changing of attitude and aspects of personality. 3. Students will learn about the Perception, factors influencing perception, Group Dynamics and Team Development. 4. Will enable the students to learn about Organisational Conflict, its Dynamics, Traditional and modern approaches to conflict and Organisational development. |
| **Semester –III** |
| **Course code- 17MCO 23C1**  **Title: Portfolio Management** |
| 1. Students will gain a comprehensive understanding of the concept of Portfolio and its allied aspects. 2. Students will gain skills of building Portfolio with the help of Markowitz’s model, Sharpe’s Index Model and Capital Assets Pricing Mod. 3. Students will understand main techniques of Portfolio performance evaluation. 4. Will enable the students comprehend the premise of Behavioural Finance. 5. Will equip students with strategies of Great Masters in the sphere of investment management. |
| **Course code- 17MCO 23C2**  **Title: Corporate Tax** |
| 1. Student will learn the keywords of Corporate Tax and how the residential status of Corporate Sector is being determined. 2. Student will gain with the provisions regarding determination income under various heads. 3. Student will become familiar with the provisions of income tax regarding assessment of charitable trust, education institutions, political parties, co-operative societies and income of non-residents. 4. Students will become familiar with the basic mechanism of Income Tax Act with special reference to assessment of cooperative sectors. |
| **Course code- 17MCO23DA1**  **Title: Marketing Concepts & Decisions** |
| 1. To know the concept of Marketing, and problems in marketing. 2. To understand the basis for market segmentation, Branding, trade-mark and product life cycle. |

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| 1. To be familiar with Pricing & Distribution channel factors affecting choice of a distribution 2. To learn the New Product planning & development, branding, Packaging and labelling, Pricing Decisions and strategies. 3. Understanding the product Promotion, their Complexities and issues and advertising. |
| **Course code- 17MCO23DB3**  **Title: Advanced Cost Accounting** |
| 1. To understand importance of cost accounting and financial accounting for preparing management accounting. 2. Demonstrate knowledge about various financial decision based on management accounting. 3. Better understanding of the variance concept. 4. Understand the concept of cost-volume-profit. |
| **Semester –IV** |
| **Course code- 17MCO 24C1**  **Title: COST ACCOUNTING STANDARDS AND REPORTING** |
| 1. Demonstrate domain knowledge in Cost accounting standard, generally accepted cost accounting principles, CAS need and statutory recognition. 2. Better knowledge about the CAS, Cost auditor –appointment, eligibility, remuneration, rights and responsibilities etc. 3. Understanding the Outlines of CAS, CAS-1, CAS- 3, CAS-6, CAS-7, CAS -10, CAS-11, CAS- 12 etc. 4. Getting the deep knowledge about the Cost Audit, Cost accounting records. |
| **Course code- 17MCO 24C2**  **Title: Corporate Tax Planning and Management** |
| 1. Student will know about the difference between Tax evasion, Tax avoidance, Tax planning and Tax management. 2. Students will aware about the Income Tax Insensitive provided to the industrial undertakings established for the development of Infrastructure facilities and backward area. 3. Student will learn about the provisions of Income Tax Act during taking of financial decisions. 4. Student will gain with the provisions regarding various issues involved with the assets used in business. 5. Student will become familiar with the provisions of Income Tax Act regarding assessment of corporate sector in India. |
| **Course code- 17MCO 24C3**  **Title: Business Research Methods** |
| 1. Understand a general definition of research design. 2. Be able to identify the overall process of designing a research study from its inception to its report. 3. Students should be familiar with ethical issues in educational research, including those issues that arise in using quantitative and qualitative research. 4. Students should be familiar with how to write a good introduction to an educational research study and the components that comprise such an introduction. 5. Students should know the various types of quantitative sampling and which ones present the most rigorous approach to use. |

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| **Course code- 17MCO24DA1**  **Title: Human Resource Management** |
| 1. This subject prepares the student for the most critical ingredient of the business i.e. HRM. 2. To be able to understand the Importance, Objective and Scope of Human Resource Management (HRM). 3. To learn about the steps, Techniques/methods of Recruitment, Selection, Training and Management Development. 4. To gain an insight about the Wage and Salary Administration and Wage Incentives 5. To be able to develop strategic action plans by about Human Resources Development, Industrial Relationship and Industrial Unrest |
| **Course code- 17MCO24DB1**  **Title: International Business Environment** |
| 1. Will enable the students understand the meaning, nature and importance of international Business and Environment 2. Will acquaint the students with the International Economic Cooperation and Agreements, SAARC, SAPTA, Indo-Lanka Free Trade Agreements, NAFTA. 3. Will help students to gain understanding pertaining to IMF, WB, ADB, UNCTAD, IMODO and WTO. 4. Will enable the students to acquaint with various international capital and money market instruments. |
| **Course code- 17MCO24DC2**  **Title: International Marketing** |
| 1. To know the concept of International Marketing, problems in international marketing and ways to be international. 2. To understand the external marketing environment and different international market entry strategies. 3. To be familiar with different techniques of foreign market selection, their segmentation, positioning. 4. How to make successful International Marketing Plan, Organising and controlling, evaluating the Impact of globalisation. 5. To learn the New Product planning & development, branding, Packaging and labelling, Pricing Decisions and strategies. |

M.A. HISTORY

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| **SEMESTER-I** |
| **Course code- 16HIS21C1**  **Title: Ancient Societies-I** |
| 1. Critically evaluate the development of human society and various cultures from stone age to iron age, worldwide phenomenon. 2. Critically discuss major cultural structures, events and then shaping the world context. 3. Evaluate and analyse different sources (particularly archaeological) in overseas. 4. Critically evaluate the concept the decline of different civilizations. 5. Critically evaluate the concept of relation of civilizations to each other. |
| **Course code- 16HIS21C2**  **Title: Medieval Societies (India)** |

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| 1. Critically evaluate the various developments in feudal Europe, Islamic World and Medieval World. 2. Critically evaluate the concept the decline of feudalism and advent of capitalism. 3. Critically analyse and describe the rise of Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty and Abbasid dynasty. 4. Evaluate and analyse the different aspects of administrative units especially in Indian context. 5. Critically understand the society through the religion. |
| **Course code- 16HIS21C3**  **Title: Modern World (Socio-Economic Trends)** |
| 1. Students' enable to understand the various socio-economic trends in modern period. 2. Critically evaluate how the modern west was emerged through renaissance and other socioeconomic developments. 3. Critically analyse the rise of capitalism and imperialism led all these developments. 4. Critically evaluate how the new political system emerged based on representative system. 5. Explain and analyse the rise of new order in the world in the form of socialism and about the world crisis of 1919 and 1939 which led to world wars. |
| **Course code- 116HIS2C4**  **Title: History of Haryana (Earliest Times to Sultanate)** |
| 1. Students understand the theme of regional history is explored through study of Haryana from stone age to independence of India. 2. Critically analyse the rise of various cultures are explored in the region of Haryana. 3. Critically evaluate the efforts of the people of this region in the foreign invasions. Critically analyse the rise of state formation and new power in the region of Haryana. 4. Explain and analyse the Turkish Invasion and its impact on Haryana |
| **Course code- 116HIS2C5**  **Title: State in India (Earliest Times to Sultanate)** |
| 1. Evaluate and analyse of institutional history that how the institution of state rise and develop in India. 2. Critically evaluate the nature of the state changes with the time and dynasty. 3. Analyse the emergence of the Mauryan and Gupta empires during the classical age in India 4. Identify and analyse key facets of Indian Society and the rise of technology and commerce. 5. Formulate logical arguments substantiated with historical aspects. |
| **Course code- 16HIS21D1**  **Title: Science and Technology in Pre-Colonial India)** |
| 1. Critically, students to know the evolution and development of science and technology through the ages in India up to 18th century. 2. Evaluate and analyse the history of various fields of science viz. Physical, Chemical, Mechanical, Astronomy, Mathematics and Medicine etc. 3. Explain and acquainted with the internal evolution and external influences on science & technology in India 4. Formulate logical arguments substantiated with historical aspects. |

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| **SEMESTER-II** |
| **Course code- 16HIS22C1**  **Title: Ancient Societies-II** |
| 1. Critically evaluate the development of human society and various cultures from Stone age to Iron age, worldwide phenomenon. 2. Critically discuss major cultural structures, events and then shaping the world context. 3. Evaluate and analyse different sources (particularly archaeological) in overseas. 4. Critically evaluate the concept the decline of different civilizations and concept of relation of civilizations to each other. 5. Formulate logical arguments substantiated with historical aspects. |
| **Course code- 16HIS22C2**  **Title: Medieval Societies (Islamic and Europe)** |
| 1. Critically evaluate the various developments in feudal Europe, Islamic World and Medieval World. 2. Critically evaluate the concept the decline of feudalism and advent of capitalism. 3. Critically analyse and describe the rise of Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty and Abbasid dynasty. 4. Evaluate and analyse the different aspects of administrative units specially in Indian context. 5. Critically understand the society through the religion. |
| **Course code- 16HIS22C3**  **Title: Modern World (Political Trends)** |
| 1. Students' enable to understand the various socio-economic trends in modern period. 2. Critically evaluate how the modern west was emerged through renaissance and other socio-economic developments. 3. Critically analyse the rise of capitalism and imperialism led all these developments. 4. Critically evaluate how the new political system emerged based on representative system. 5. Explain and analyse the rise of new order in the world in the form of socialism and about the world crisis of 1919 and 1939 which led to world wars |
| **Course code- 16HIS22D1**  **Title: History of Haryana (Mughals to 1947)** |
| 1. Students understand the theme of regional history is explored through study of Haryana from stone age to independence of India. 2. Critically evaluate the efforts of the people of this region in the foreign invasions. 3. Critically analyses the rise of state formation and new power in the region of Haryana. 4. Explain and analyse the Turkish Invasion and its impact on Haryana. 5. Evaluate and analyse the different aspects of ancient to modern administrative units. |
| **Course code- 16HIS22D2**  **Title: State in India (Mughals to Modern Times)-II** |
| 1. Evaluate and analyse of institutional history that how the institution of state rise and develop in India. 2. Critically evaluate the nature of the state changes with the time and dynasty. 3. Analyse the emergence of the Mauryan and Gupta empires during the classical age in India 4. Identify and analyse key facets of Indian Society and the rise of technology and |

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| commerce.  **5.** Formulate logical arguments substantiated with historical aspects. |
| **Semester III** |
| **Course code- 17HIS23C1**  **Title: Historiography: Concepts, Methods and Tools –I** |
| 1. Students will have developed their ability to assess critically historical analysis and argument, past and present. 2. Students will have gained an understanding of the development of the academic study of history throughout the world since the later eighteenth century. 3. Students will have gained an awareness of recent and contemporary debates in the theory, practice of historical writing and gained debate in history thinker. 4. Students will have gained insight into how historical arguments have been and are made become aware of historiographical traditions outside the West. 5. students will have had the opportunity to think reflexively about the nature of the historical enterprise within society. |
| **Course code- 17HIS23C1**  **Title: Medieval India (Group-C)**  **Political History of India (c.1200-1526 A.D.) Political Events** |
| 1. Students understand about the sources, Impact of Turkish Conquests. 2. Students understand the conquest and expansion of Ilbaris and their consolidation and construction of power. 3. Students understand the Khalji Revolution and experiments of Muhammed Tughlaq. 4. Students understand about Mongol Problem and disintegration of the Sultanate. |
| **Course code- 17HIS23GC2**  **Title: Political History of India (1526 -1757) Political Events** |
| 1. Students understand about the Babur, Humayun, Bairam Khan, Akbar, Jahangir, Nur Jahan, Shahjahan, Aurangzeb and their administration. 2. Students understand about the war of succession, later Mughal and decline of Mughal empire. 3. Students understand about the North-West Frontier Policy, Central Asian Policy and Deccan Policy of the Mughals. |
| **Course code- 17HIS23GC3**  **Title: Society and Culture of India (c. 1200 -1526 A.D.)** |
| 1. Students understand about the main features of social structure and religion-cultural traditions of Turkish invasion. 2. Students understand the establishment of Delhi Sultanate and Challenges to Indian Society. 3. Student get the knowledge about the Religious Classes- Ulema, Sayyad’s and Sufis and understand the rise, impact of Bhakti Movements. 4. Student understand the rise, impact of Sufism. |
| **Course code- 17HIS23GC4**  **Title: Economic History of India (1200-1526 A.D.)** |
| 1. Students understand about Pre-sultanate economy and Land Revenue system during Early Turks, Khalkis, Tughlaqs and Lodhi. 2. Students understand the Irrigation and Changes in Crop-Pattern. |

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| **3.** Student get the knowledge about the Currency, Industries and Trade and Commerce during that period. |
| **Course code- 17HIS23GD1**  **Title: Modern Group (Group-D) Political History of India (1757-1947) I** |
| 1. Students understand about the sources of Modern Indian History i.e. Archival Records, Private Papers, Newspapers, Periodicals and Oral Traditions. 2. Students understand the pre-colonial Indian Polity. 3. Students understand the emergence of British Power and Indian resistances. 4. Students understand the diplomatic means of British Expansion and Paramountcy and aftermaths. |
| **Course code- 17HIS23GD2**  **Title: Modern Group (Group-D) Indian National Movement (1885-1919)** |
| 1. Students understand about the Indian Nationalism and role of Indian National Congress sources. 2. Students understand the emergence of Communal Politics and Era-Communal Co- ordination India and the first world war. 3. Students understand the emergence of British Power and Indian resistances. CO4 : Students understand constitutional development - British reaction. |
| **Course code- 17HIS23GD3**  **Title: Modern Group (Group-D)**  **Society and Culture of India (1757-1947) I** |
| * Students understand about the Pre-British Indian Society, British and Indian Society i.e. Christian Missionaries, British Social Policy and Approaches -Evangelicalism and Orientalist. * Critically analyse the grout of new education system and role of press in socio-political consciousness. * Critically analyse the Indian literature and role in Indian cultural renaissance. * Students understand about social reforms of 19th century in India and women's emancipation. |
| **Course code- 17HIS23GD4**  **Title: Modern Group (Group-D) Economic History of India (1757-1947)-I** |
| 1. Students understand about the Pre-British Indian Society, British and Indian Society i.e. Christian Missionaries, British Social Policy and Approaches -Evangelicalism and Orientalist. 2. Critically analyse the growth of new education system and role of press in socio-political consciousness. 3. Critically analyse the Indian literature and role in Indian cultural renaissance. 4. Students understand about social reforms of 19th century in India and women's emancipation. |

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| **Semester IVth** |
| **Course code- 17HIS24C1**  **Title: Historiography : Concepts, Methods and Tools - II** |
| 1. Students developed their ability to assess critically historical analysis and argument, past and present. 2. Students gained an understanding of the development of the academic study of history throughout the world since the later eighteenth century. 3. Students gained an awareness of recent and contemporary debates in the theory, practice of historical writing and gained debate in history thinker. 4. Students gained insight into how historical arguments have been and are made become aware of historiographical traditions outside the West. 5. students had the opportunity to think reflexively about the nature of the historical enterprise within society. |
| **Course code- 17HIS24GC1**  **Title: Medieval India (Group-C)**  **Political History of India (from c.1200-1526 A.D.)** |
| 1. Students get basic knowledge about the Islamic theory of Sovereignty, the Sultanate and the Caliphate and Theory of Kingship under the Sultans of Delhi. 2. Students understand the Barni's theory of Kingship, Nature of Delhi Sultanate and Nature of Afghan State. 3. Students understand the evolution of administrative institutions, central administration and provincial Administration and Students understand the composition and role of Nobility, Karkhanas and Military Organization. |
| **Course code- 17HIS24GC2**  **Title: Political History of India (1526-1757)- Political Institutions** |
| 1. Students get basic knowledge about the sources of Mughal History, Construction of Imperial Authority, Legitimacy and Kingship. 2. Students understand the relations with Rajput, Zamindari Policy of the Mughals, Mansabdari System. 3. Students understand the provincial government, central government and nature of Mughal. 4. Students understand the decline of Mughal and the Eighteenth-Century Debate, Modern Historiography on the Decline. |
| **Course code- 17HIS24GC3**  **Title: Society and Culture of India (C. 1526-1757 A.D.)** |
| 1. Students get the basic knowledge about the Babur's description of the social life of India, Social Structure and Women and gender relations. 2. Students understand the Bhakti Movement and Sufism. 3. Students understand the evolution of Akbar's Religious Ideas and Muslim Orthodoxy and the Mughal state in the 16th and 17th Century. |
| **Course code- 17HIS24GC4** |

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| **Title: Economy of India (1526-1757 A.D.)** |
| 1. Students get basic knowledge about the Land Revenue System, Categories of Peasants and Village Community. 2. Students understand the Jagir System and its crisis, Agrarian Crisis, Ijaza System and Madadi-Maash Grants. 3. Students understand the Potentialities of Capitalists Development under the Mughals, Dandi system, Role of Nexus etc. 4. Students understand the Industries and Mineral Resources, Trade and Commerce : Inland and External Trade, Centres of Large-Scale Production and Euro-Indian Trade : Merchants and Brokers. |
| **Course code- 17HIS24GD1**  **Title: Modern Group (Group-D) Political History of India (1757-1947-II)** |
| 1. Students get the basic knowledge about the administrative structure i.e. District, provincial and central administration and to understand the Arms of the state i.e. Army, law , Police and Civil services. 2. Students understand the relation with Indian states, Afghan Policy, Foreign Policy of Colonial State, Foreign Affairs. 3. Student understand the Indian Union and Princely States, Vision of New India and India and World Non-Alignment Movement. |
| **Course code- 17HIS24GD2**  **Title: Indian National Movement (1920-1947)** |
| 1. Students get basic knowledge about the emergence of the mass movements. civil disobedience movement etc. 2. Students understand the last phase of Revolutionary Movement. Indian National Congress and Socialist Movement. 3. Students understand the Quit Indian Movement, Emergence of States People's Conference, Praja Mandal Movement. 4. Students understand the Communalism at its Zenith. To understand the British Response Transfer of Power. |
| **Course code- 17HIS24GD3**  **Title: Society and Culture of India (1757-1947)- II** |
| 1. Students get basic knowledge about the rise of new classes and role of middle class in Modernization. 2. Students understand the causes and nature of Indian Cultural Renaissance Raja Ram Mohan Roy and Brahmo Samaj and Ram Krishnan Mission. 3. Students understand the Wahabi Movement and Arya Samaj Movement and Aligarh Movement. 4. Students understand the Rise and Growth of depressed class movement, untouchability etc. |
| **Course code- 17HIS24GD4**  **Title: Economic History of India (1757-1947) II** |
| 1. Student get basic knowledge about the foreign trade in colonial India with reference to Mercantilism, Industrial Capitalism and Finance Capitalism, Price Movements, Tariff policy. 2. Student to understand the Urban Markets and growth/decline of urban centres in colonial |

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| India, Industries and Industrial policy in colonial India.   1. Student understand the theory about the Drain of wealth , Banking System. 2. Student understand the environment, forests and the colonial state, labour and the trade union movement, consequences of colonial rule on Indian economy. |

M.A. with Geography

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| **SEMESTER-I** |
| **Course code- 16GEO21C1**  **Title: GEOMORPHOLOGY** |
| 1. Nature and scope of geomorphology, the earth’s interior, plate tectonics, distribution of plates. 2. Endogenetic processes. 3. Exogeneity processes. 4. Applied geomorphology |
| **Course code- 16GEO21C2**  **Title: CLIMATOLOGY)** |
| 1. Nature and scope of climatology. 2. Weather system and disturbances. 3. Weather system and disturbances. 4. Climate changes. |
| **Course code- 16GEO21C3**  **Title: RESOURCE GEOGRAPHY** |
| 1. Nature and scope of resource geography. 2. Models of natural resource process. 3. Use and misuse of resources. 4. Conservation and management of natural resources. |
| **Course code- 16GEO21C3**  **Title: STATISTICAL METHODS IN GEOGRAPHY** |
| 1. Geography and statistics. 2. Measures of central tendency. 3. Measures of dispersion and concentration. 4. Correlation and regression. |
| **Course code- 16GEO21CL1**  **Title: PRACTICAL- TOPOGRAPHICAL SHEETS AND ITS INTERPRETATION** |
| Introduction to maps, map sheets and its Scale and Topographical maps. |
| **Course code- 16GEO21CL2**  **Title: PRACTICAL- COMPUTER AIDED STATISTICAL DIAGRAMS AND GRAPHS** |
| INTRODUCTION TO COMPUTER AND MS EXCEL,COORDINATES |
| **SEMESTER-II** |
| **Course code- 16GEO22C1**  **Title: GEOGRAPHY OF WORLD ECONOMY** |

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| 1. The stuff of economy, economic geography-a Brief history. 2. Capitalism, Neo-liberalism 3. The basic elements of world economy. 4. Economic development. |
| **Course code- 16GEO22C2**  **Title: REGIONAL DEVELOPMENT AND PLANNING** |
| 1. Concept of and planning, regional development. 2. Regional growth theories. 3. Planning processes: types of planning. 4. Experiences of regional development. |
| **Course code- 16GEO22C3**  **Title: ENVIRONMENTAL GEOGRAPHY** |
| 1. Nature and Scope Environment Geography. 2. Ecosystem. 3. Environmental Pollution. 4. Environment Management. |
| **Course code- 16GEO22D1**  **Title: URBAN GEOGRAPHY** |
| 1. Definition, nature and scope. 2. Urbanisation processes and patterns. 3. Location, site and situation. 4. Urban planning visions. |
| **Course code- 16GEO22D2**  **Title: CULTURAL GEOGRAPHY** |
| 1. Nature and scope of cultural geography. 2. Cultural areas and realm. 3. Spatial structure. 4. Human races: habitat economy and society of tribal groups. |
| **Course code- 16GEO22D3**  **Title: GEOGRAPHY OF INDIA** |
| 1. Physiographic division of India. 2. Demographic attributes, population problems and policies. 3. Characteristics of Indian agriculture development. 4. Evolution of administrative map of India since independence. |
| **Course code- 16GEO22D4**  **Title: GEOGRAPHY OF RURAL SETTLEMENTS** |
| 1. Nature and scope of settlements. 2. Culture- historical perspective. 3. Morphology of rural settlements in India. 4. Functions of rural settlements, rural settlement planning of India. |
| **Course code- 16GEO22D5**  **Title: SOIL GEOGRAPHY** |
| **1.** Nature and scope of soil geography. |

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| 1. Processes of soil formation. 2. Physical properties of soil. 3. Evaluation of land and soil. |
| **Course code- 16GEO22CL1**  **Title: PRACTICAL -DIGITAL CARTOGRAPHY** |
| BASIC INTRODUCTION TO GIS SOFTWARES, QGIS, ArcGIS, DOT, CHOROPLETH AND ISOPLETHS MAPPING, MAP ELEMENTS. |
| **Course code- 16GEO22CL2**  **Title PRACTICAL- MORPHOMETRIC ANALYSIS** |
| Analysis of drainage Basin relief aspects, Slope analysis, Profile analysis |
| **Semester III** |
| **Course code- 17GEO23C1**  **Title: Historiography : REMOTE SENSING AND GIS** |
| Photogrammetry: History and development, Stereoscopic Vision |
| **Course code- 17GEO23C2**  **Title: GEOGRAPHY OF TRANSPORT** |
| 1. Nature and scope of transport geography. 2. The modes of transport: introduction to modes of transport. 3. Structural analysis of transport networks. 4. Development of road transport in Haryana. |
| **Course code- 17GEO23D1**  **Title: BIOGEOGRAPHY** |
| 1. Biogeography the development, nature, scope and composition. 2. Biogeochemical cycles and components. 3. Ecosystem: meaning, types and components. 4. Biomes: meaning and types. |
| **Course code- 17GEO23D2**  **Title: POLITICAL GEOGRAPHY** |
| 1. Nature and scope of political geography. 2. Concepts of nation, state, nation-state. 3. Rise and demise of German geopolits. 4. India as a regional power in south Asia. |
| **Course code- 17GEO23D3**  **Title: SOCIAL GEOGRAPHY** |
| 1. Social geography: nature, meaning& and development of social geography. 2. Towards a social geography of India. 3. Social well-being: concepts of social well-being. 4. Gender issues of social wellbeing. |
| **Course code- 17GEO23D4**  **Title: HYDROLOGY** |
| **1.** Introduction to hydrologic science. |

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| 1. Drainage basin-characteristics of drainage basin: size of the basin. 2. Precipitation-process; types, forms. 3. Evaporation-actual evaporation, potential evaporation. |
| **Course code- 17GEO23D5**  **Title: OCEANOGRAPHY** |
| 1. Definition and scope of oceanography. 2. Depth of ocean, ocean floor profile. 3. Temperature of oceans, salinity, density and dynamics of ocean currents. 4. Ocean currents and their impact on climate. |
| **Course code- 17GEO23CL1**  **Title: PRACTICAL -FIELD WORK** |
| Field work in geographical studies role, value, ethics, source Of data and analysis of data Field work and report writing. |
| **Course code- 17GEO23CL2**  **Title: PRACTICAL -GIS** |
| Introduction to digital environment, GIS software, map layout, editing, buffer analysis, overlay analysis. |
| **Semester IV** |
| **Course code- 17GEO24C1**  **Title: GEOGRAPHICAL THOUGHT** |
| 1. Development of geographical knowledge, relationship of geography with other branches. 2. Classical period of modern geography. 3. Modern geography since 1950. 4. Beginning of contemporary geography. |
| **Course code- 17GEO24C2**  **Title: RESEARCH METHODOLOGY** |
| 1. Meaning and purpose of research? Types of research. 2. Scientific method in human geography. 3. From quantitative to qualitative geography. 4. Process of research report writing. |
| **Course code- 17GEO24DA1**  **Title: WATER RESOURCE AND MANAGEMENT** |
| 1. Water as a focus of geographical interest. 2. Groundwater and its occurrence. 3. Utilization of water resources; problems of groundwater irisation. 4. Strategies of water resource management. |
| **Course code- 17GEO24DA2**  **Title: GEOGRAPHY OF TOURISM** |
| 1. Geography of tourism: Definition , nature and scope. 2. Tourism: product and typology; infrastructure and support system of tourism. 3. Impact of tourism: physical, economic and social. |

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| **4.** Basic concepts of tourism and regional dimensions of tourism in India. |
| **Course code- 17GEO24DA3**  **Title: RURAL GEOGRAPHY** |
| 1. Infrastructure in rural India: irrigation, electrification, and roads. 2. Rural house type. 3. Issues of rural development in India. 4. Untouchability and Dalits in rural India. |
| **Course code- 17GEO24DB1**  **Title: POPULATION GEOGRAPHY** |
| 1. Population geography: definition, nature and scope. 2. Population distribution and growth. 3. Components of population change. 4. Population and development: population growth and economic development. |
| **Course code- 17GEO24DB2**  **Title: NATURAL HAZARDS AND DISASTER MANAGEMENT** |
| 1. Concept of hazards, risk, vulnerability and disaster. 2. Regional dimension of natural hazards. 3. Disaster losses and impact displacements, livelihood. Economy and infrastructure, and health. 4. Mitigation and management: plans and policies. |
| **Course code- 17GEO24DB3**  **Title: AGRICULTURAL GEOGRAPHY** |
| 1. Definition, nature, scope. 2. Factors influencing agricultural patterns. 3. Agricultural system of the world. 4. Nature, significance and classification of agricultural models. |
| **Course code- 17GEO24CL1**  **Title: PRACTICAL: AERIAL PHOTOGRAPH AND ITS INTERPRETATION** |
| Lab work on Aerial Photographs. |
| **Course code- 17GEO24CL2**  **Title: PRACTICAL: SATELLITE IMAGES AND ITS INTERPRETATION** |
| 1. Kinds of satellite images. 2. Study of a satellite image – annotation. 3. Visual interpretation of a satellite image. 4. Separating physical and cultural features on an image. |

M.Sc. (Computer Science)

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| **Semester I** |
| **Course Code: 16MCS21C1**  **Title: DISCRETE MATHEMATICS** |
| 1. Identify and apply basic concepts of set theory, arithmetic, logic, proof techniques, binary relations, graphs and trees. 2. Write an argument using logical notation and discriminate between valid and invalid arguments. 3. Demonstrate an understanding of relations and functions and be able to determine their properties and able to determine when a function is one to one, onto, many to many and so on. 4. Identify different types of matrices and able add, subtract, multiply matrices. Also able to calculate determinant, minors and cofactors of the matrices. 5. Identify different types of grammars used in automata and able to convert NFA to DFA and mealy to more machines. |
| **Course Code: 6MCS21C2**  **Title: COMPUTER FUNDAMENTALS AND PROGRAMMING IN C PAPER CODE** |
| 1. Understand the Computer fundamentals. 2. Use of various problem-solving techniques. 3. Understand the C programming fundamentals. 4. Understand C by using arrays, functions, structures and union. 5. Develop the Programs in C using its advance features. |
| **Course Code: 16MCS21C3**  **Title: DATABASE MANAGEMENT SYSTEM** |
| 1. Understand the database concepts and structures. 2. Understand data modelling and database development process. 3. Construct and normalize conceptual data models. Implement a relational database into a database management system. 4. Use database management systems (Oracle SQL Plus). 5. Become proficient in using database query language (SQL) |
| **Course Code: 16MCS21C4**  **Title: COMPUTER ORGANIZATION AND ARCHITECTURE** |
| 1. Design a circuit for any digital function. 2. Use K-map for simplification of Boolean expressions. 3. Identify the addressing modes of instructions and calculation of effective address. 4. Determine which hardware blocks and control lines are used for different instructions 5. Classify the parallel processors. |
| **Course Code: 16MCS21CL**  **Title: PRACTICAL-I Based on 16MCS21C2 & 16MCS21C3** |
| 1. Knowledge of Basic fundamentals and their implementation syntax of programming. 2. Able to develop basic programs of in c language and Use various problem solving techniques. 3. Able to implement arrays in C Programming. |

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| 1. Programming in C by using functions, structures and union. 2. Able to solve various problems using C language on small scale. |
| **Semester- II** |
| **Course Code: 16MCS22C1**  **Title: DATA STRUCTURES USING C** |
| 1. Knowledge of programming fundamentals including structured and efficient programming. 2. Use various problem-solving techniques using C. 3. Knowledge of stacks, queues, recursion and linked lists and their implementation in C. 4. Knowledge of trees and file structures. 5. Knowledge and Development of Programs in C for searching and sorting techniques. |
| **Course Code: 16MCS22C2**  **Title: OBJECT ORIENTED PROGRAMMING USING C++** |
| 1. Use the characteristics of an object-oriented programming language in a program. 2. Use the basic object-oriented design principles in computer problem solving. 3. Apply C++ features to program design and implementation. 4. Design and implementation programs of Constructor, Destructor, and Inheritance. 5. Design and implementation programs of Polymorphism, Exception handling, Templates and Working with files. |
| **Course Code: 16MCS22C3**  **Title: SOFTWARE ENGINEERING** |
| 1. Analyse and resolve software crisis issues by using systematic and scientific approaches in the development of software system. 2. Aiming to develop the software system with low cost, high quality and within the given time frame. 3. Use a variety of scripting tools and languages to automate routine tasks such as analysis, design, coding and testing tasks, security issues to the implementation of software systems. 4. Install, configure, troubleshoot, maintain, and upgrade software components. 5. Provide efficient and effective technical support to clients in a manner that promotes safe computing practices and reduces the software risks. |
| **Course Code: 16MCS22C4**  **Title: COMPUTER NETWORKS** |
| 1. Independently understand basic computer network technology. 2. Understand and explain Data Communications System and its components, different types of network topologies and protocols. 3. Enumerate the layers of the OSI model and TCP/IP. Explain the function(s) of each layer, different types of network devices and their functions within a network . 4. Understand and building the skills of sub-netting and routing mechanisms. 5. Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation. |
| **Course Code: 16MCS22CL**  **Title: PRACTICAL-II BASED ON 16MCS22C1 & 16MCS22C2** |
| 1. Demonstrate use of copy constructor and class member functions with suitable example. 2. Elaborate on inheritance and virtual functions with suitable example. |

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| 1. Learn how to use basic principles of Exception Handling with Multiple Catch in programs. 2. Elaborate on Virtual Base Class in application with suitable example. 3. Demonstrate on Function Overloading with suitable example. |
| **Semester- III** |
| **Course Code: 17MCS23DA1**  **Title: COMPILER DESIGN** |
| 1. To deal with different translators. 2. To use the knowledge of patterns, tokens & regular expressions for solving a problem. 3. Representation of expressions in the form of symbol table, parse tree, three address code, quadruple, triples etc. 4. To learn the new code optimization techniques to improve the performance of a program in terms of speed & space. 5. To acquire the knowledge of modern compiler & its features. |
| **Course Code: 17MCS23DA2**  **Title: COMPUTER SECURITY** |
| 1. Apply security measures to commonly used computer resources. 2. Identify the possible threats and apply protection mechanisms. 3. Classify sensitive data and its relevance. 4. Identify malicious and non-malicious codes. 5. Determine ethical and legal issues of computer security. |
| **Course Code: 17MCS23DA3**  **Title: COMPUTER GRAPHICS** |
| 1. Explain the concepts used in various computer graphic devices. 2. Draw different primitive drawing objects and apply transformations. 3. Apply clipping on points, lines and closed objects with respect to given rectangular window. 4. Explain the concepts of interactive computer graphics. 5. Implement the algorithms learnt in some programming language. |
| **Course Code: 17MCS23DB1**  **Title: MANAGEMENT INFORMATION SYSTEM** |
| 1. Identify with the usage of Information Systems in management. 2. To be aware of the activities that are undertaken in acquiring an Information System in an organization. 3. Aware of various Information System solutions like ERP, CRM, SCM and the issues in successful implementation of these technology solutions in any organization. 4. Learn about the importance of managing organizational change associated with information systems implementation. 5. Understand the process of developing and implementing information systems. |
| **Course Code: 17MCS23DB2**  **Title: DIGITAL IMAGE PROCESSING** |
| 1. Quantize and to perform sampling on given images. 2. Transform and filter the digital image for improving the image quality. 3. Generate Colour images by applying different image characteristics. 4. Compress the digital images by applying different lossless and lossy compression |

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| techniques.  **5.** Identify different representations of digital images. |
| **Course Code: 17MCS23DB3**  **Title: ARTIFICIAL INTELLIGENCE** |
| 1. Learn the concept of Artificial intelligence, problem solving with example and searching process. 2. Understand basic concepts of Expert system with its architecture and development life cycle. 3. Understand the concepts of knowledge, acquisition of knowledge and various levels and schemes with the help of which knowledge can be represented. 4. Learn the concepts of perception, basic concepts of Neural network, learning in neural network with its applications. 5. Handle the uncertainty in knowledge using fuzzy logic and understand various concepts of fuzzy logic. |
| **Course Code: 7MCS23C1**  **Title: OPERATING SYSTEM AND UNIX** |
| 1. Design the structure of an Operating system as per requirements. 2. Perform CPU scheduling to achieve maximum throughput from the system. 3. Manage the memory space more effectively and efficiently by implementing paging, segmentation. 4. Compare the performance of any system in terms of different performance evaluators. 5. Design the Shell scripts in UNIX environment. |
| **Course Code: 17MCS23C2**  **Title: VISUAL PROGRAMMING** |
| 1. Design, create, build, and debug Visual Basic applications and explore Visual Basic’s Integrated Development Environment (IDE). 2. Implement syntax rules in Visual Basic programs. And explain variables and data types used in program development and apply arithmetic operations for displaying numeric output. 3. Write and apply decision structures for determining different operations, lop structures to perform repetitive tasks, procedures, sub-procedures, and functions to create manageable code. 4. Create one and two-dimensional arrays for sorting, calculating, and displaying of data and to write Visual Basic programs using object-oriented programming techniques including classes, objects, methods, instance variables, composition, and inheritance, and polymorphism. 5. Design Windows applications using forms, controls, and events. |
| **Course Code: 17MCS23CL**  **Title: PRACTICAL-III BASED ON 17MCS23C1, 17MCS23C2, 17MCS23DA3** |
| 1. Explain the concepts used in various computer graphic devices. 2. Draw different primitive drawing objects and apply transformations. 3. Apply clipping on points, lines and closed objects with respect to given rectangular window. 4. Explain the concepts of interactive computer graphics. 5. Implement the algorithms learnt in some programming language. |

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| **Semester- IV** |
| **Course Code: 17MCS24C1**  **Title: JAVA PROGRAMMING** |
| 1. Use the characteristics of Java language in a program, variables and data types in program development. 2. Identify and implement arrays, String and Selection Statements. 3. Write Java programs using object-oriented programming techniques including classes, objects, methods, instance variables, and interface. Apply Java features to design and implementation of Packages 4. Design and implementation programs of Exception handling, Packages. 5. Design and implementation programs of Multithreading Programming, Window based programs. |
| **Course Code: 17MCS24DA1**  **Title: DATA WAREHOUSE AND MINING** |
| 1. Compare different types of data and to propose different techniques based on it. 2. Perform the pre-requisite phases: Extract, Transform and Load on the given dataset. 3. Prepare the given dataset by applying different pre- processing techniques. 4. Implement different data mining techniques on the pre- processed data set for extracting hidden patterns from data. 5. Evaluate different techniques and prediction models by using different performance evaluators. |
| **Course Code: 17MCS24DA2**  **Title: ANALYSIS AND DESIGN OF ALGORITHMS** |
| 1. Prove the correctness and analyse the running time of the basic algorithms for those classic problems in various domains; 2. Analyse worst-case running times of algorithms using asymptotic analysis. 3. Explain the major graph algorithms and their analyses. Employ graphs to model engineering problems, when appropriate. 4. Compare between different data structures. Pick an appropriate data structure for a design situation. 5. Apply the algorithms and design techniques to solve problems. |
| **Course Code: 17MCS24DA3**  **Title: MULTIMEDIA AND ITS APPLICATIONS** |
| 1. Design Multimedia by incorporating different components of multimedia effectively. 2. Identify different 3D technologies including HDTV, UDTV and Hyper speech. 3. Perform dithering on 24-bit colour and 8-bit colour and 8-bit grey images. 4. Compress the photographs and videos by applying lossy as well as loss less techniques. 5. Make an animated multimedia by incorporating different enhanced features. |
| **Course Code: 17MCS24DB1**  **Title: INTERNET AND WEB DESIGNING** |
| 1. Review the current topics in Web & Internet technologies and describe the basic concepts for website and internet implementation. 2. Learn the basic working scheme of the Internet and World Wide Web and understand fundamental tools and technologies for web design. 3. Comprehend the technologies for Hypertext Mark-up Language (HTML), XML and |

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| specify design rules in constructing web pages and sites. Effectively deal with programming issues relating to VB Script, JavaScript, Java, ASP, Front Page and Flash. Create and Design websites.   1. Figure out the various security hazards on the Internet and need of security measures. 2. Create and use Cascading Style Sheet (CSS) and Information architecture document for a web site and construct a web site that conforms to the web standards of today and includes ecommerce and web marketing. |
| **Course Code: 17MCS24DB2**  **Title: SOFTWARE TESTING** |
| 1. Provide examples for the objectives of testing in different phases of the software life cycle 2. Explain and compare the terms error, defect, fault, failure and the corresponding terms mistake and bug, using examples 3. Describe why testing is part of quality assurance and explain how testing contributes to higher quality. 4. Classify different types of test tools according to them 5. Define different test cases, considering prioritization, and technical and logical dependencies |
| **Course Code: 17MCS24DB3**  **Title: ADVANCES IN DATABASE SYSTEMS** |
| 1. Understand the fundamentals of DBMS and conceptual design using EER model with prerequisite. 2. Understand differences between OODBMS and ORDBMS with their various features. 3. Learn the concepts of Client-Server technology, Parallel and distributed Database with their architectures and concepts. 4. Learn how to retrieve information and analysis of data using mining approach. 5. To understand the concepts of advance databases and emerging technologies such as cloud computing and big data with their various framework. |
| **Course Code: 17MCS24CL**  **Title: PRACTICAL-IVBASED ON 17MCS24C1, 17MCS24DB1** |
| 1. Clarify the overloading concept with suitable example. 2. Demonstrate in detailed on multilevel inheritance with suitable example. 3. Demonstrate on multiple Thread class and use set Priority method with suitable example. 4. Elaborate on runtime polymorphism with suitable example. 5. Demonstrate on applet with differentiate between main () method using suitable example. 6. Learn the basic working scheme of the Internet and World Wide Web and underset and fundamental tools and technologies for web design. 7. Comprehend the technologies for Hypertext Mark-up Language (HTML), XML and specify design rules in constructing web pages and sites. Effectively deal with programming issues relating to VB Script, JavaScript, Java, ASP, Front Page and Flash. 8. Create and Design websites. 9. Figure out the various security hazards on the Internet and need of security measures. 10. Create and use Cascading Style Sheet (CSS) and Information Architecture document for a web site and construct a web site that conforms to the web standards of today and includes ecommerce and web marketing. |
| **Course Code: 17MCS24C3** |

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| **Title: 17MCS24C3** |
| 1. Use of various software engineering principles used in developing programming solutions to a system. 2. Identify the programming technologies: languages and database etc to be used for developing a software solution. 3. Understand and analyse the work schedule and its phases to develop a Project. 4. Implement the software design in the chosen programming languages/database etc. 5. Test the code for validation and verification of user requirements of the software. Work in a team for software development. |

APGDCA (ADVANCE POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS)

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| **Semester- I** |
| **Course Code: APGDCA-101**  **Title: Foundation Course in IT And MS-Office -2000** |
| 1. Give students an in-depth understanding of why computers are essential components in business, education and society. 2. Provides hands-on use of Microsoft Office applications Word, Excel and PowerPoint. Completion of the assignments will result in MS Office applications knowledge and skills. 3. Understand the basic terminology of computers 4. Understand the practical concepts of MS Word, MS Excel, MS PowerPoint, and MS Access 5. To make familiar with the part and function of computer , its types , how to use computer in our day-to-day life , its characteristics, its usage , Limitations and benefits etc. 6. To introduce students with basic concepts of Operating System, its functions and services. 7. Making the students understand and learn the basics of computer how to operate it. 8. To make familiar with the part and function of computer, its types , how to use computer in our day-to-day life , its characteristics, its usage , Limitations and benefits etc. 9. Understand the fundamental hardware components that make up a computer’s hardware and the role of each of these components 10. Understand the difference between an operating system and an application program, and what each is used for in a computer technology has had on some common products 11. Use systems development, word-processing, spread sheet, and presentation software to solve basic information systems problems. |
| **Course Code: APGDCA-102**  **Title: Computer Networking & Multimedia** |
| 1. Study the basic taxonomy and terminology of the computer networking and enumerate the layers of OSI model and TCP/IP model. 2. Gain core knowledge of Network layer routing protocols and IP addressing. 3. Study the cell structure and various layers of ATM. 4. Knowledge about various classes of IP Addressing 5. Study of Data Compression Techniques. 6. Study about Cryptography, Creating, renaming, deleting, disabling user account in Windows NT. |

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| 1. Knowledge about Multimedia Technologies. Digital representation of sound and transmission. 2. Knowledge about digital video and image compression 3. Knowledge about Audio Compression and Decompression, Audio Synthesis, MIDI, Speech Recognition & Synthesis, Video Capturing, Compression & Decompression, Real-time 3D, LANs and Multimedia. 4. Virtual environment displays and orientation tracking; visually coupled system requirements; intelligent VR software systems. |
| **Course Code: APGDCA-103**  **Title: Programming in C and Data Structure** |
| 1. Understand the fundamentals of C programming. 2. Students will acquire knowledge and skills of programming. 3. Students will be able to develop logics which will help them to create programs, applications in C. 4. Also by learning the basic programming constructs they can easily switch over to any other language in future. 5. Knowledge about Time and Space complexity of algorithms 6. Knowledge about various Data structures like Arrays, Stacks, Queues, Linked Lists, Trees and Graphs. 7. Knowledge about concepts of fields, records and files. Sequential file organisation, ISAM, Hashing techniques, Inverted Lists and Multisets. 8. Knowledge about: Internal and External sorting. Searching techniques and Merging algorithms. |
| **Course Code: APGDCA-104**  **Title: Computer Organization And Architecture** |
| 1. Study about Number Systems, Integer and Floating-point representation, Character codes   – ASCII and EBCDIC.   1. Knowledge about Logic gates, Boolean Algebra, flip flops, memory, Register transfer and Micro-operations etc. 2. knowledge about Basic Computer Organization and Design. 3. Knowledge about Programming the Basic Computer like assembly Language. 4. Deep knowledge of Central Processing Unit. 5. Study of Basic computer Arithmetic. 6. Complete knowledge of Input-Output Organization |
| **Course Code: APGDCA-105**  **Title: PRACTICAL I (Based on APGDCA-101 & 103)** |
| 1. Students will be familiar with some advanced Office functions, including Mail Merge (Word) and formulas (Excel). 2. Students will understand how to use Word, Excel, and PowerPoint in a variety of professional, educational, and personal situations. 3. Students will be able to claim Office proficiency. 4. Students will be able to Read, understand and trace the execution of programs written in C language. 5. Write the C code for a given algorithm. 6. Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor. 7. Write programs that perform operations using derived data types. |

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| **Semester- II** |
| **Course Code: APGDCA-201**  **Title: VISUAL C++** |
| 1. Building a Basic Application using VC ++. 2. Learn about Visual C++ Resources: 3. learn about Window Controls and Dialog Box. 4. Learn about Advance Window Controls: Toolbars up down controls, Spin control, Progress bar, Tree view, Tab controls, Tool tip, slider control, image list control. 5. Working with Graphics, Consoles, Multitasking Process and Threads. Clipboard Drag and Drops, Advance features of Windows Programming GDI Metafiles, Sound API and DLL. |
| **Course Code: APGDCA-202**  **Title: VISUAL BASIC & ORACLE** |
| 1. Knowledge of VB concepts, Simple Active X controls, s, Database Programming, Crystal Reports. 2. Learn about Oracle, RDBMS, SQLPLUS, Data types, Data Constraints, Operators, Data manipulation. 3. Learn about SQL\*Forms, PL/SQL Blocks in SQL\*Form, SQL\*Report Writer and QL\*Menu. 4. Knowledge of Database Triggers 5. Utilities, Export/Import, SQL\*Loader. |
| **Course Code: APGDCA-203**  **Title: SYSTEM ANALYSIS & DESIGN** |
| 1. Knowledge of Elements of system, Types of system, system development life cycle, project selection, feasibility, analysis, design, implementation, testing and evaluation. 2. Able to project development. 3. Efficient in System requirement specification and Analysis and System Design. 4. Efficient in System Testing, implementation, System evaluation, System maintenance and its types, System documentation, Forms of documentation. |
| **Course Code: APGDCA-204**  **Title: Practical-II (Based on APGDCA-201& 202)** |
| 1. Students code visual programs by using Visual Basic and Visual C++ work environment. 2. Distinguish and compose events and methods. 3. Recognize and arrange control structures. 4. Design a complete program using visual programming or Visual C++ concepts. 5. Students prepare various projects by helping visual programming and Visual C++. 6. Manage and analyse prepared project with programs. Interpret and report obtaining results. 7. Create flowcharts for simple programming problems. 8. Develop algorithms for simple programming problems. 9. Write pseudo-code as solutions to programming problems. 10. Demonstrate proficiency in writing structured programs using the Visual C++ programming language to resolve problems. |
| **Course Code: APGDCA-205**  **Title: Project Work, Report & Viva-Voce (Based on any** |

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| **Language, Software Development Tool, etc.)** |
| 1. Provides technology-oriented students with the knowledge and ability to develop creative solutions. 2. Develop skills to learn new technology. 3. Apply computer science theory and software development concepts to construct computing-based solutions. 4. Design and develop computer programs/computer-based systems in the areas related to algorithms, networking, web design, cloud computing, Artificial Intelligence, Mobile applications. 5. Students will acquire the skills to communicate effectively and to present ideas clearly and coherently to specific audience in both the written and oral forms. 6. Students will be able to learn on their own, reflect on their learning and take appropriate actions to improve it. |
| **Course Code: M.Sc. Physics: 24PHY201DS01**  **Title: Mathematical Physics** |
| 1. The students would get sufficient exposure /understanding of the linear vector space and applications of matrices to physical problems 2. The students would be able to solve problems based on differential equations 3. The analysis of special functions would equip a student for effective tackling of specific problems 4. The students would be able to realize various applications with proper understanding of series expansion and integral transforms |
| **Course Code: M.Sc. Physics: 4PHY201DS02**  **Title: Classical Mechanics** |
| 1. Student would be able to describe and understand the motion of a mechanical system using Lagrange and Hamilton formalisms. 2. Students would become able to understand the concepts of central force motion and moving co-ordinate systems. 3. Student would 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 |
| **Course Code: M.Sc. Physics: 24PHY201DS03**  **Title: Quantum Mechanics –I** |
| 1. Student would be able to understand the concepts of operators in Quantum mechanics 2. Students would be able to apply Pauli spin matrices to explain angular momentum. 3. Students would be capable to solve problems such as hydrogen atom. 4. Students can determine energies and wave functions of first and second order |
| **Course Code: M.Sc. Physics: 24PHY201DS04**  **Title: Physics of Electronic Devices** |
| 1. Students would get familiarity with semiconductor materials and charge transport in semiconductors 2. Students would be able to appreciate the functioning and applications of various optoelectronic and memory devices. 3. Students would be able to explain the basic physics and application of different transistor types. 4. Students having familiarization with negative resistance devices and will be in a position to design switching circuits involving these device. |
| **Course Code: M.Sc. Physics: 24PHY201DS05**  **Title: Practical: General Physics -I** |
| 1. Students would be able to determine the values of Stefan’s constant, Boltzmann constant and e/m ratio of electron and experimental errors in each case. 2. Students would be able to understand magnetization and related aspects in a ferromagnetic material. 3. Students get familiarized with advanced spectroscopy. 4. Students would be able to understand the different harmonics and their amplitudes in a Fourier series experimentally which provide direct connect between theory and experiment. |
| **Course Code: M.Sc. Physics: 24PHY201SE01**  **Title: Practical** |
| 1. The students would get hands on experience on experiments and relation to theory 2. Theoretical results for different networks matched with experiments would enable students for complex circuits. 3. The students would get equipped for applications based on solid state devices 4. The students would be able to differentiate between analog and digital electronics. |
| **Course Code: M.Sc. Physics: 24PHY202DS01**  **Title: Statistical Mechanics** |
| 1. The students are able to appreciate cellular nature of phase space and interface of Statistical Mechanics with Thermodynamics. 2. Knowledge of ensemble theory would result in greater insight into solutions of various complex problems. 3. The students would be able to analyse the peculiar gas behaviour and are in a position to extend the treatment to complex problems 4. The students would be equipped to explore the applications of Ising Model and to understand different approximations. |
| **Course Code: M.Sc. Physics: 4PHY202DS02**  **Title: Quantum Mechanics –II** |
| 1. Students would be able to explain ground state of hydrogen and helium molecules. 2. Students get enabled to analyse various transitions and their selection rules. 3. Students would be capable to understand 3D collisions. 4. Students would be capable to calculate spin states of identical particles. |
| **Course Code: M.Sc. Physics: 24PHY202DS03**  **Title: Atomic and Molecular Physics** |
| 1. Atomic spectra of one and two electron atoms. 2. The change in behaviour of atoms in external applied electric and magnetic field. 3. Diatomic molecules and their rotational vibrational and rotational vibrational spectra. 4. Energy levels and spectrum in diatomic molecules |
| **Course Code: M.Sc. Physics: 24PHY202DS04**  **Title: Solid State Physics** |
| 1. Differentiate between different lattice types and explain the concept of reciprocal lattice and crystal diffraction using X-rays 2. Explain motion of electron in periodic lattice of solids under different binding conditions, concept of energy band and effect of same on electrical properties. 3. Lattice vibrations in solids and identity different types of defects in crystals 4. Explain various types of magnetic phenomena, superconductivity, Physics behind them and their possible applications. |
| **Course Code: M.Sc. Physics: 24PHY202DS05**  **Title: Practical: General Physics -II** |
| 1. Students would be able to determine the values of Ionization potential of Hg, Planks and e/m ratio of electron and experimental errors in each case. 2. Students would be able determine band gap energy of semiconductor crystals 3. Students get familiarized with LEDs. 4. Students would be able to understand the working of p-n junction solar cells 5. Students will be able to measure dielectric constant of ferroelectric solids and their ferroelectric transition temperature. |
| **Course Code: M.Sc. Physics: 24PHY202SE01**  **Title: Practical: Practical: Electronics-II** |
| 1. Students will be able to design circuits and verify truth table of different logic gates, 2. flip flops, adders and Subtractor 3. Students will be able to design integrating and differentiating circuits using passive components 4. Students will be able to practically verify the frequency response of single and multistage amplifiers 5. Measurement of various analog circuits and comparison of experimental results with Theoretical analysis enables the student for problem solving. |
| **Course Code: M.Sc. Physics: 25PHY203DS01**  **Title: Practical: Nuclear and Particle Physics** |
| 1. Students would be able to realize the nature of nuclear force and nuclear reactions. 2. Students would be able to understand the structure of the nucleus and would be able to find out the spin, parity, magnetic moments etc. of different nuclei. 3. Students would be able to understand different nuclear decays. 4. Students would gain basic knowledge about Elementary Particles and their interactions. |
| **Course Code: M.Sc. Physics: 25PHY203DS02**  **Title: Practical: Electrodynamics and Wave propagation** |
| 1. Students would be able to formulate and solve electrodynamic problems in relativistic covariant form in four-dimensional space. 2. Students would gain knowledge about electrostatic and magnetic fields produced by static and moving charges in a variety of simple configurations. 3. Would be able to analyse the basics of theory of transmission lines and waveguides |
| **Course Code: M.Sc. Physics: 25PHY203DS03**  **Title: Practical: Condensed Matter Physics –I** |
| 1. The students would be able to understand the bonding in metals, ionic and covalent crystals and also their thermal expansion and thermal conductivity. 2. Proper understanding of various theoretical concepts of optical properties of solids. 3. The students would understand different phenomena, and theoretical analysis of superconducting materials along with their applications in SQUIDs magnetometer. 4. The students would be able to understand the dielectric and ferroelectric properties of solids. |
| **Course Code: M.Sc. Physics: 25PHY203DS04**  **Title: Practical: Electronics – I** |
| 1. To understand about the transistor amplifiers and their low-frequency response 2. To understand the feedback process in amplifiers and the generation of signal through the oscillator 3. Students would be able to realize the performance of operational amplifiers for various mathematical operations such as addition, subtraction, differentiation, integration etc 4. To understand circuit analysis and implementation of operational amplifiers for various applications like comparators, A/D & D/A convertors, oscillators, etc. |
| **Course Code: M.Sc. Physics: 25PHY203DS05**  **Title: Advanced Spectroscopy – I** |
| 1. Understand about the Raman effect and Raman spectra of diatomic molecules. 2. Understand the electronic spectra and various electronic transitions in a molecule. 3. Under about the infrared and Raman spectra of different molecules. 4. Understand the generation of X-rays and its spectrum. |
| **Course Code: M.Sc. Physics: 25PHY203DS06**  **Title: Computational Physics – I** |
| 1. Students would acquire a vision for use of computer in research prospective. 2. Students would be 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. 3. Students would be able to design Fortran programs to solve numerical computationally. |
| **Course Code: M.Sc. Physics: 25PHY203DS07**  **Title: Radiation Physics – I** |
| 1. Radioactivity and uses of radio-isotopes. 2. Radiation quantities and units. 3. Interaction of radiation with matter and neutrons |
| **Course Code: M.Sc. Physics: 25PHY203DS08**  **Title: Experimental Physics – I** |
| 1. Student would be able to differentiate between amorphous and crystalline materials using x-ray diffraction 2. Student would be able to understand the working of x-ray diffractometer 3. Student would be able to get familiarization with electron spectroscopy for surface analysis and Scanning probe microscopy 4. Student would be able to understand nitty-gritty of electron microscopy techniques. |
| **Course Code: M.Sc. Physics: 25PHY203DS09**  **Title: Practical: General Physics -III** |
| 1. Student will be able to conduct experiments, as well as to analyze and interpret data. 2. Student would be able to relate experiments with the theoretical aspects of the course. 3. Student would be able to learn working with basic laser systems. |
| **Course Code: M.Sc. Physics: 24PHY203SE01**  **Title: Practical: Practical: General Physics -IV** |
| 1. Realize monoatomic and diatomic linear chain of atoms using passive electrical components and able to find the cut off frequency and understand dispersion relation as well as energy gap. 2. Devise and understand various filter circuits and frequency response of push – pull amplifier. 3. Determine the band gap of semiconductor materials, magnetic susceptibility of magnetic materials and dielectric constants of liquids. 4. Comprehend fibre optic communication, different mechanism of signal loss and various type of pulse modulation. |
| **Course Code: M.Sc. Physics: 25PHY204DS01**  **Title: Physics of Laser and Laser Applications** |
| 1. Student would be able to understand the diversity of laser designs and various applications. 2. Understand the basic concepts of most of the commercially available lasers. 3. Student will get the knowledge about the basic principles which form the basis of nonlinear optics. |
| **Course Code: M.Sc. Physics: 25PHY204DS02**  **Title: Physics of Nano-materials** |
| 1. Students would be able to explain the properties of Nanomaterials/nanostructures. 2. Students get enabled to analyse the density of states in various nanostructures and related effect on optical properties. 3. Students get acquainted with important techniques for preparation of Nanomaterials/nanostructures. 4. Understanding quantitatively, the experimental results of x-ray diffraction, photoluminescence and Raman spectra of Nanomaterials opens up avenues of future research. |
| **Course Code: M.Sc. Physics: 25PHY204DS03**  **Title: Condensed Matter** |
| 1. Explain the concepts different types of bonding in solids 2. Understand some key and hot topics of condensed matter physics 3. Have understanding of exotic solids and their important applications. 4. Appreciate the few characterization techniques of nanomaterials. |
| **Course Code: M.Sc. Physics: 25PHY204DS04**  **Title: Electronics – II** |
| 1. Express numbers, alphabets, special characters etc. in binary representation, perform mathematical operation in digitally and application of different codes. 2. Implement Boolean expression with basic gates and design circuits to achieve desired output. 3. Design basic building blocks of ICs for different electronics operations such as addition, subtraction, code generation, data register, counting etc. and develop various building blocks for ICs using MOSFET as MOS devices 4. Understand the various types of modulation and microwave devices. |
| **Course Code: M.Sc. Physics: 25PHY204DS05**  **Title: Advanced Spectroscopy – II** |
| 1. Understand about the NMR and Mossbauer spectroscopy 2. Explain about the electron spin resonance and its spectra 3. Get understanding about the Laser spectroscopy and related applications 4. Understand the time resolve spectroscopy and related phenomenon. |
| **Course Code: M.Sc. Physics: 25PHY204DS06**  **Title: Computational Physics – II** |
| 1. Students would be able to understand framework of computer languages 2. Students would be able to solve numerically various physical problems 3. Students would gain the necessary basic knowledge of application of MATLAB for problem solving. |
| **Course Code: M.Sc. Physics: 25PHY204DS07**  **Title: Radiation Physics – II** |
| 1. Radiation detectors. 2. Biological effects of radiation. 3. Radiation hazard |
| **Course Code: M.Sc. Physics: 25PHY204DS08**  **Title: Experimental Physics– II** |
| 1. Students would be able to understand the working and application of absorption and emission spectroscopy for material characterization 2. Student would be acquainted with IR and Raman spectroscopy 3. Student would appreciate the electrical and dielectric properties of the materials and their data interpretation 4. Students would be get familiar with different tools for the measurement of thermal properties. |
| **Course Code: M.Sc. Physics: 25PHY204DS09**  **Title: Practical –Condensed Matter Physics** |
| 1. Characterize the semiconductor materials by determining resistivity, band gap, mobility, and carrier type. 2. Understand phase transitions in ferroelectric materials and find the ferroelectric Curie temperature (Tc). 3. Analyze the experimental data of powder diffraction in terms of indexing of peaks coming from different crystal planes and lattice parameters. 4. Find the magnetic susceptibility and energy loss/volume/cycle in ferromagnetic materials. |
| **Course Code: M.Sc. Physics: 25PHY204DS10**  **Title: Practical –** **Practical: Electronics** |
| 1. Students would be able to demonstrate the relation between the input and the corresponding digital output of various digital systems 2. Designing basic building blocks for the ICs for different electronic functions like addition, subtraction, code generation, data register; counting etc. would help in realizing complex circuits. 3. Students would be able to appreciate the effect of different types of modulation on the modulating signal. 4. Students would be enabling for measurement of various digital circuits parameters and comparison of experimental outcomes with theoretical results. |