

**(2019 onwards)**

## **PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES AND COURSE OUTCOMES**

### **Bachelor of Business Administration Programme(BBA)**

#### **Programme Outcomes**

##### **PO 1.Critical Thinking:**

1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
3. Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

##### **PO 2.Effective Citizenship:**

1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
2. Develop and practice gender sensitive attitudes, environmental awareness, the ability to understand and resist various kinds of discriminations and empathetic social awareness about various kinds of marginalisation.
3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the postcolonial society.

##### **PO 3.Effective Communication:**

1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
2. Learn to articulate analysis, synthesis, and evaluation of situations and themes in a well informed manner.
3. Generate hypothesis and articulate assent or dissent by employing both reason and creative thinking.

##### **PO 4.Interdisciplinarity:**

1. Perceive knowledge as an organic comprehensive, interrelated and integrated faculty of the human mind
2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.
3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

#### **Programme Specific Outcome of Bachelor of Business Administration Programme(**

**PSO 1: Gain knowledge and skills in the areas of Management principles and practices, finance, human resource management and marketing**

**PSO 2: Acquire knowledge in accounting principles and practices and its application in real business settings**

PSO 3: Apply concepts, theories, tools and techniques of statistics, information techniques, economics and numerical skills for decision making

PSO 4: Build entrepreneurial spirit, develop research attitude and entrepreneurial competencies and managerial abilities

## **CORE COURSE I : PRINCIPLES AND PRACTICES OF MANAGEMENT**

### **COURSE OUTCOME**

CO 1: Acquaint with the basics of management.

CO2: Understand the process and functions of management.

CO3: Familiarize the students with the current management practices.

Co4: Develops administrative skills

## **COMPLEMENTARY ELECTIVE COURSE I: STATISTICS FOR BUSINESS DECISIONS**

### **COURSE OUTCOMES**

CO1: Understand the importance and relevance of statistics, primary data, secondary data and the statistical technique as applicable to business

CO2: Classify, tabulate and represent the statistical data in appropriate manner using statistical methods

CO3: Analysis trend and seasonality in a time series data

CO4: Construct index numbers and enable to compare the price movements of commodities over different time periods.

CO5: Identify the correlation between variables

CO6: Problem solving and fit the regression line which enable to draw conclusion about data distribution.

## **COMPLEMENTARY ELECTIVE COURSE II: MANAGERIAL ECONOMICS**

### **COURSE OUTCOMES**

CO1. Understand basic managerial economic concepts

CO2. Understands economics and related disciplines and relationships

CO3. Apply economic analysis in the formulation of business policies

CO4. Use economic reasoning to problems of business

## **CORE COURSE II : BUSINESS ENVIRONMENT**

### **COURSE OUTCOMES**

CO 1: Acquire in-depth knowledge about different environment in business climate.

CO2: Understand the minor and major factors affecting the business in various streams

CO3: Familiarize the role of socio-cultural factors on development of economy and business.

CO4: Develop good business policies.

### **COMPLEMENTARY ELECTIVE COURSE III :QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS**

#### **COURSE OUTCOME**

CO1. Understands concepts of quantitative techniques

CO2. Develops analytical thinking and logical reasoning for effective decision making

CO3. Apply probability theories in real life situations

CO4. Understands theoretical distributions and hypothesis testing and its applications in live situations

### **CORE COURSE III : ENTREPRENEURSHIP DEVELOPMENT**

#### **COURSE OUTCOME**

CO 1: Understand different stages of business and create innovative thinkers to take forward new initiatives.

CO2: Acquaint them with the challenges faced by the entrepreneur

CO3: Familiarize the students the entrepreneurship opportunities available in the society.

CO4: Develop the motivation to enhance entrepreneurial competency.

### **CORE COURSE IV : FINANCIAL ACCOUNTING**

#### **COURSE OUTCOMES**

CO1: Understands accounting concepts and principles

CO2: Apply knowledge regarding concepts in the preparation of final accounts of sole traders

CO3: Understands the basic concepts of company, shares and share capital

CO4: Demonstrates skills in preparation of final accounts of companies

### **CORE COURSE V: MARKETING MANAGEMENT**

#### **COURSE OUTCOME**

CO 1.Develop knowledge on the concept modern marketing, marketing environment, marketing mix, market segmentation and target marketing.

CO 2. Enhance knowledge on product decision, product mix, product life cycle, pricing strategies and price discrimination

CO 3. Apply the concept of market promotion, market promotion mix and sales promotion techniques in real business situations.

CO 4. Understand the new market realities, direct marketing, online marketing and customer relationship marketing.

CO 5. Identify the key characteristics of customer relationship marketing and common draw back.

CO 6. Develop idea on branding and strategies of branding

CO 7. Acquire skill in preparing advertisement copy very effectively.

## **SKILL ENHANCEMENT COURSE I: NUMERICAL SKILLS**

### **COURSE OUTCOMES**

CO 1. Understand common numerical methods

CO 2. Apply numerical methods to obtain approximate solutions to mathematical problems

CO 3. Analyses and evaluate the accuracy of common numerical methods

CO 4. Derive numerical methods for various mathematical operations and tasks

## **ABILITY ENHANCEMENT COURSE I: PERSONALITY DEVELOPMENT AND COMMUNICATION SKILLS**

### **COURSE OUTCOMES**

CO 1: Understand the 'self' through analysis of one's own strengths, weaknesses, opportunities and threats to face the challenging and competitive world.

CO2: Set new goals specific, measurable, achievable, realisable and time-bounded to reshape the personality and identify the shortcomings to be corrected.

CO3: Develop inter personal skills and problem solving skills.

CO4: Understand the role of body language in effective communication.

CO5: Critically evaluate the need for stress management and experience the essence of different techniques in reducing stress.

CO6: Perform effectively the assigned work to the fullest satisfaction; with utmost concentration and self motivation to achieve success in near future.

## **III SEMESTER**

### **COMPLEMENTARY ELECTIVE COURSE 4: LEGAL ASPECTS OF BUSINESS**

#### **COURSE OUTCOME**

CO 1. Understand the conditions and rules that are applicable to a contract and the importance of law in business.

CO 2. Identify the important and relevant documents needed for registering Indian companies.

CO 3. Awareness about the latest amendments in the Indian Companies Act

CO 4. Develop knowledge on the Sale of Goods Act, GST, the application of

CGST, SGST and its challenges and opportunities.

CO 5. Apply the knowledge on consumer protection Act, rights of consumer and dispute redressal agencies in real life situations.

## **CORE COURSE VI : HUMAN RESOURCE MANAGEMENT**

### **COURSE OUTCOME**

CO1:understand basic concept and principles of Human Resource Management.

CO2: sensitize to the training process and methods.

CO3: equip with the importance of the performance management system in enhancing employee performance.

CO4: equip with the importance of the performance management system in enhancing employee performance.

## **IV SEMESTER**

## **CORE COURSE VII : FINANCIAL MANAGEMENT**

### **COURSE OUTCOMES**

CO 1.Understand the concept and objective of financial management

CO 2. Develop the ability to select the feasible and viable investment proposal

CO 3. Apply decision making tools in organisational context

CO 4. Ability to assess the risk and return of investment projects

## **CORE COURSE VIII : OPERATIONS MANAGEMENT**

### **COURSE OUTCOME**

CO 1:Understand the transformation system.

CO2:Identify the components involved in designing effective operations system.

CO3:Understand the meaning and importance of managing quality.

CO4:Understand the meaning and importance of productivity and ways to improve productivity.

CO5:Understand the decisions and process of operations management in business firms.

## **SKILL ENHANCEMENT COURSE II: IT TOOLS FOR BUSINESS**

### **COURSE OUTCOMES**

CO 1: Understand the working on word, PowerPoint, Excel etc.

CO2: Develop basic computer awareness for letter drafting, Slide making, Payroll preparation

CO3: Understand the various shortcuts for faster functioning on the computer system

## **ABILITY ENHANCEMENT II: ENVIRONMENTAL STUDIES**

### **Course Outcomes**

CO1.Acquire knowledge about environment and enable to contribute towards maintaining and improving the quality of the environment.

CO2. Understand the importance of protecting the environment and effect of environmental hazards

CO3. Analysis the ecosystem and the bio diversity nature of our country

CO4. Apply the awareness to point out Hot -spot of bio diversity in India and its conservation

CO5.Identify the effect of environmental Degradation and the role of Government in protecting the environment

CO6. Formulate some action plan to engage in activities for preventing environmental degradation.

## **CORE COURSE IX : INDUSTRIAL VISIT AND REPORT**

### **COURSE OUTCOMES**

CO 1: acquire hands on experience of how industry operations are executed

CO2: analyses real life environment of business

CO3: enhance interpersonal skills and communication techniques.

CO4: acquire practical knowledge of industry practices and regulations

## **CORE COURSE X: BUSINESS RESEARCH METHODS**

### **COURSE OUTCOMES**

CO 1. Acquire basic concepts of research and its types

CO 2. Gain insight and acquire the ability to apply different research designs

CO 3. Acquire skill of data processing in terms of tabulation and classification.

CO4. Generate the ability to write research reports based on approved formats.

## **SEMESTER V**

## **CORE COURSE XI : ACCOUNTING FOR MANAGEMENT**

### **COURSE OUTCOMES**

CO 1. Understand the concepts of cost and management accounting

CO 2.Prepare cost sheet and budgets of an organization

CO 3. Analyse financial statements of corporate organisations using accounting ratios

CO4. Apply the concepts of marginal costing and standard costing in decision making

## **CORE COURSE XIV: ORGANISATION BEHAVIOUR**

CO1. Understand concepts, theories and techniques in the field of human behavior at individual, group and organization level.

CO 2. Understand personality determinants within personal and organizational context.

CO3. Understand concepts of learning and motivation and its context in organizational setting.

CO4. Identify the role and relevance of group dynamics in organizational management.

## **CORE COURSE XV: BANKING THEORY AND PRACTICE**

### **COURSE OUTCOMES**

CO1. Acquire knowledge about basics of banking

CO2. Understands the law and practices of banking

CO3. Understands the various banking terminologies

CO4. Acquire knowledge of modern banking practices

## **CORE COURSE XVI :PROJECT REPORT AND VIVA VOCE**

### **COURSE OUTCOMES**

CO1: Analyses real life situations

CO2: Acquires group dynamic skills by group involvement

CO3: Develops solutions or inferences on the problem of study

CO4: Sythesis facts in the form of report

## **COMPUTER SCIENCE**

### **Programme Outcomes (PO)**

#### **PO 1. Critical Thinking:**

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#### **PO 2. Effective Citizenship:**

1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
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#### **PO 3. Effective Communication:**

1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
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#### **PO 4. Interdisciplinarity:**

1. Perceive knowledge as an organic comprehensive, interrelated and integrated faculty of the human mind
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### **Programme Specific Outcome of B.Sc. Computer Science Programme**

PSO1 : Understand the concepts of Computer Science and Applications.



PSO2 : Understand the concepts of System Software and Application Software.  
PSO3 : Understand the concepts of Algorithms and Programming.  
PSO4 : Understand the concepts of Computer Networks and Operating Systems  
PSO5 : Design, develop, implement and test software systems to meet the given specifications, following the principles of Software Engineering.

### **CORE COURSE I: 1B01CSC INTRODUCTION TO C PROGRAMMING**

#### **COURSE OUTCOME**

CO1: Aware about basics of programming.  
CO2: Capable to analyze the problem and design algorithm and flowchart.  
CO3: Familiar the basics of high-level language – C.  
CO4: Able to develop efficient and error free programs in C.

### **CORE COURSE II: 2B02CSC ADVANCED C PROGRAMMING**

#### **COURSE OUTCOME**

CO1: Familiar with advanced concepts of C program.  
CO2: Capable to work with user defined as well as library functions.  
CO3: Skilled to solve more complex problems.  
CO4: Able to develop C programs using structure, union, pointers and files.

### **GENERAL AWARENESS COURSE I: 3A11CSC PROGRAMMING IN C++**

#### **COURSE OUTCOME**

CO1: Describe the Object-Oriented Paradigm  
CO2: Understand dynamic memory management techniques  
CO3: Analyze a problem and construct a C++ program that solves it  
CO4: Discover errors in a C++ program and describe how to fix them

### **GENERAL AWARENESS COURSE I: 3A11CSC PROGRAMMING IN C++**

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CO2: Understand dynamic memory management techniques  
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### **GENERAL AWARENESS COURSE II: 3A12CSC DATABASE MANAGEMENT SYSTEM**

#### **COURSE OUTCOME**

CO1: Familiar with organized data collection.  
CO2: Able to design data bases.

CO3: Skilled to normalize the data bases.  
CO4: Capable to frame queries for various purposes

### **CORE COURSE IV: 3B04CSC DATA STRUCTURES**

#### **COURSE OUTCOME**

CO1: Able to analyze the complexity of algorithm.  
CO2: Familiar with linear and nonlinear data structures.  
CO3: Acquire the ability to select appropriate data structure for a given problem.  
CO4: Obtain skill for systematic approach to programming.

### **GENERAL AWARENESS COURSE III: 4A13CSC DIGITAL ELECTRONICS**

#### **COURSE OUTCOME**

CO1: Introduce the basic and important concepts of Digital Principles and Applications.  
CO2: Familiarize with basic building blocks of Digital systems, Digital Logic and Digital Circuits.  
CO3: Design simple combinational digital systems.  
CO4: Familiarize different number systems, codes and data representation.

### **GENERAL AWARENESS COURSE IV: 4A14CSC OPERATING SYSTEMS**

#### **COURSE OUTCOME**

CO1: Familiarize with basics of design of operating systems.  
CO2: Introduce basic working process of operating systems.  
CO3: To understand the importance process and scheduling.  
CO4: To understand the issues in memory management.

### **CORE COURSE V: 4B05CSC SOFTWARE ENGINEERING**

#### **COURSE OUTCOME**

CO1: To understand the Software Development Life Cycle Models.  
CO2: To familiarize with Software Requirement Analysis and Specification.  
CO3: To familiarize with Classical Software Design Techniques.  
CO4: To familiarize with various Software Testing Techniques and Tools

### **CORE COURSE VIII: 5B08CSC WEB TECHNOLOGY**

#### **COURSE OUTCOME**

CO1: Understand different components in web technology and WWW.  
CO2: Learn to develop interactive Web pages.  
CO3: Present a web document with server-side scripting using PHP.  
CO4: Know the basics of AJAX.

### **CORE COURSE IX: 5B09CSC JAVA PROGRAMMING**

## **COURSE OUTCOME**

CO1: Know the overall structure and concept of logic building activity of Java programming language

CO2: Identify the real-world things as well as the relationship between them and understand transforming them into their corresponding computer representations.

CO3: Realize how to achieve code reusability using inheritance, interfaces and packages and expedite application development activities.

CO4: Familiarize simple and robust way of handling multitasking and runtime error as well as such kind of abnormal situations within a program.

CO5: Design GUI based applications and applications that can be transmitted over internet.

## **CORE COURSE X: 5B10CSC COMPUTATION USING PYTHON COURSE OUTCOME**

CO1: Learn Python for expressing computation

CO2: Familiarize with functions and modules in python

CO3: Understand object-oriented programming concepts

CO4: Learn the techniques for database connectivity and GUI programming in Python

## **CORE COURSE XI: 5B11CSC-A ALGORITHM DESIGNING**

### **COURSE OUTCOME**

CO1: Capable to select suitable algorithm design technique.

CO2: Able to design optimum algorithms for problems.

CO3: Skilled to design solutions for real problems.

## **CORE COURSE XI: 5B11CSC-B LINUX ADMINISTRATION**

### **COURSE OUTCOME**

CO1: To learn basic Linux commands and understand the file system structure

CO2: To understand the Boot loaders and the configuration files

CO3: To learn different system services, maintenance and configuring these

CO4: To experience Shell Scripting

## **CORE COURSE XI: 5B11CSC-C COMPUTER GRAPHICS COURSE OUTCOME**

CO1: Understand basic concepts of graphics input and display devices.

CO2: Learn line and circle drawing algorithms.

CO3: Familiarization with 2D and 3D transformations and projections.

CO4: Understand fundamentals of image processing.

## **CORE COURSE XII: DATA COMMUNICATION AND COMPUTER NETWORKING**

### **COURSE OUTCOME**

CO1: Understand state-of-the-art in network protocols, architectures and application.  
CO2: To acquire knowledge about different computer networks  
CO3: To understand the use of layer architecture for networking systems.

### **CORE COURSE XIII: 6B13CSC COMPILER DESIGN**

#### **COURSE OUTCOME**

CO1: Learn the basic principles of compiler.  
CO2: Get an idea about the related programs.  
CO3: Understand different components of a compiler.  
CO4: Understand the phases of a compiler.

### **CORE COURSE XIV: 6B14CSC COMPUTER ORGANIZATION COURSE OUTCOME**

CO1: Understand the basic terminology of computer system.  
CO2: Understand the functional units of a computer system.  
CO3: Understand the basic operations of a computer system.  
CO4: Understand the memory organization in a computer system.

### **CORE COURSE XIV: 6B15CSC-A INFORMATION SECURITY**

#### **COURSE OUTCOME**

CO1: To understand the need of information security and to master information security Concepts, mechanisms and services as well as issues related to information Security.  
CO2: To be familiar with cryptography and its categories.  
CO3: Distinguish public and private key crypto systems and familiarize the rsa crypto System.  
CO4: To attain the knowledge of digital signature and its security services.

**CHEMISTRY**  
**PROGRAMME OUTCOMES (PO)**

**PO 1.Critical Thinking:**

- 1.1 Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
- 1.2 Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
- 1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

**PO 2.Effective Citizenship:**

- 2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
- 2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations.
- 2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post- colonial society.

**PO 3.Effective Communication:**

- 3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
- 3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well-informed manner.
- 3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

**PO 4.Interdisciplinarity:**

- 4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.
- 4.2. Understand the issues of environmental contexts and sustainable

development as a basic interdisciplinary concern of all disciplines.

4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

### **Programme Specific Outcomes (PSOs)**

PSO 1 Understand the fundamental concepts, principles and processes underlying the academic field of chemistry, its different subfields (analytical, inorganic, organic and physical), and its linkages with related disciplinary areas/subjects;

PSO 2 Demonstrate procedural knowledge that creates different types of professionals in the field of chemistry and related fields such as pharmaceuticals, chemical industry, teaching, research, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, etc.;

PSO 3 Employ critical thinking and the scientific method to design, carry out, record and analyze the results of chemical experiments and get an awareness of the impact of chemistry on the environment and the society.

PSO 4 Use chemical techniques relevant to academia and industry, generic skills and global competencies, including knowledge and skills that enable students to undertake further studies in the field of chemistry or a related field, and work in the chemical and non-chemical industry sectors.

PSO5 Undertake hands on lab work and practical activities which develop problem solving abilities required for successful career in pharmaceuticals, chemical industry, teaching, research, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, etc.

PSO 6 Understand safety of chemicals, transfer and measurement of chemical, preparation of solutions, and find out the green route for chemical reaction for sustainable development.

PSO 7 Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.

## **CORE COURSE: I - THEORETICAL AND INORGANIC CHEMISTRY**

### **Course outcome**

CO 1: Correlate the structure and behavior of atom

CO2: Differentiate the various chemical interactions in molecules through bonding concepts

CO3: Analyze and interpret the gradation in the properties of elements in the periodic table  
CO4: Predict the nuclear transmutations  
CO5: identify the role of radioactive materials in different applications

### **CORE COURSE III : ANALYTICAL AND INORGANIC CHEMISTRY – I**

#### **Course Out come**

CO 1: Determine the error, standard deviation and relative standard deviation of analytical data.  
CO 2: Understand statistical treatment of analytical data and the principles underlying volumetric titrations.  
CO 3: Understand basic principles behind selective precipitation of cation.  
CO 4: Summarize the characteristics of s- and p- block elements  
CO 5: Compare the various concepts of acids and bases

### **CORE COURSE IV: ORGANIC CHEMISTRY – I**

#### **Course Outcome**

CO:1 ) Explain the types of electron displacement in organic molecules and predict the properties of molecules based on electron displacement effect  
  
CO:2) Distinguish aromatic , anti aromatic and nonaromatic compounds and ions and analyse the mechanistic details of aromatic electrophilic substitution  
  
CO:3) Classify stereo isomers, understand the property of chirality , apply CIP rules to recognize the configuration and explain the stability of conformations drawing energy profile diagram  
CO: 4) Explain the mechanism of polymerization, synthesis and application of industrially important Polymers  
CO: 5) Explain the classification and the methods of preparation of important dyes  
CO: 6) Illustrate the preparative methods and synthetic applications of important synthetic reagents

### **CORE COURSE VI : ORGANIC CHEMISTRY – II**

#### **Course Outcome**

CO :1) Describe mechanisms for substitution and elimination reactions, and predict the effect of nucleophile, leaving group, and solvent on the relative rates of  $S_N1$  versus  $S_N2$  reactions, and  $E1$  versus  $E2$  reactions, as well as on the relative rates of substitution versus elimination.  
CO 2) Explain Chugaev and Cope eliminations and  $E1CB$  mechanism  
CO : 3) Illustrate the preparative methods and important properties of Hydrocarbons, halogen compounds , Hydroxy compounds and Carbonyl Compounds  
CO: 4) Explain the mechanism of important name reactions including rearrangements involving hydroxyl and Carbonyl functional groups

### **CORE COURSE VII : ANALYTICAL AND INORGANIC CHEMISTRY-II**

#### **Course Outcome**

CO: 1 Understand the qualitative and quantitative aspects of analysis and separation techniques  
CO: 2 Explain instrumentation and working principle of different analytical techniques –TGA, DTA and radio chemical method of analysis.  
CO: 3 Familiarize with the preparation, properties and uses of some inorganic compounds like hydrides of boron, sulphur and silicon based inorganic polymers and understand their importance  
CO :4Explain the classification of refractories.  
CO :5Knowthe position, electronic configuration and physical properties of noble gases and explain hybridization and geometry of different xenon compounds  
CO :6Explain various steps involved in metallurgical operations and power metallurgy and understand Corrosion, theories of Corrosion and factors affecting Corrosion

## **CORE COURSE VIII : INORGANIC CHEMISTRY**

### **Course Outcome**

CO:1) Understand the behavior of transition and inner transition elements and explain the separation of lanthanides by ion exchange method andlanthanide contraction  
CO: 2) Understand key features of co-ordination compounds and illustrate the theories of coordination complexes, stability of complexesand explain factors affecting crystal field splitting.  
CO: 3) Explain biological functions of metal ions.  
CO: 4) Familiarize new elements in periodic table and Understand recent developments in inorganicchemistry.

## **CORE COURSE IX : PHYSICAL CHEMISTRY I**

### **Course outcome**

CO1)Recognize and relate the properties of ideal and real gases  
CO2 ) Describe the properties of liquids.  
CO3) Identify and distinguish the types of solutions  
  
CO4) Explain colligative properties of dilute solution and determine the molecular weight of a solute  
  
CO 5) Identifydifferent crystallographic systems and various types of crystal defects  
  
CO 6) Describe X ray diffraction to explain internal structure of solids

## **CORE COURSE X : PHYSICAL CHEMISTRY II**

### **Course outcome**

CO 1) Identify the fundamental concepts of thermodynamics  
CO2) Relate and Interpret the various laws of thermodynamics  
CO3) Understand the concept of entropy and how the whole universe is related to it.  
CO 4) Construct phase diagrams and study the equilibrium exists between various states of matter.and apply principles phase diagram to separation processes and for property modification of different type of system.  
CO 5) Understand basic principles of surface chemistry and its application in various fields  
CO 6) Correlate the types of colloids with its properties and to explore the applications in day



todaylife.

#### **CORE COURSE XIV: ORGANIC CHEMISTRY - III**

##### **Course Outcome**

CO1 Acquaint with the classification, structures and properties of carbohydrates, explain the configuration of glucose and fructose, their inter conversion, illustrate Killiani-Fischer synthesis and Ruff degradation

CO2 Illustrate the preparative methods and the properties of different classes of organic acids, nitrogen containing compounds and heterocyclic compounds

CO3 Classify amino acids and peptides and explain the synthesis of simple peptides by *N*-protection (t-butyloxycarbonyl and phthaloyl) & C-activating groups and Merrifield solid-phase synthesis. Explain the methods of determination of primary structure of peptides

CO4 Distinguish the components of nucleic acids and lipids and their roles in biological system and the biological importance of various natural products. Familiarise with important drugs and their therapeutic applications

CO5 Recognise the types and characteristics of pericyclic reaction and analyse the pericyclic reactions by FMO methods. Understand the photochemistry of carbonyl compounds

CO6 Understand the principles of Green Chemistry and the importance of green synthesis and recognize the impact of green chemistry on human health and the environment

#### **CORE COURSE XV: PHYSICAL CHEMISTRY - III**

##### **Course outcome**

CO 1) Understand the mechanism of electrical conductance, theories of electrical conductance, and conductometric titrations

CO 2) Understand the basic principle of ionic equilibrium and its application in laboratories

CO 3) Design different types of electrochemical cell and able to calculate its potential.

CO 4) Familiarise with electroanalytical methods

CO 5) Acquaint with kinetics of simple, complex, enzymatic and surface reactions

CO6) Understand basic principles of photochemistry and its application in spectrophotometry

#### **CORE COURSE XVI: PHYSICAL METHODS IN CHEMISTRY**

##### **Course outcome**

CO 1 i) Explain the important principles of spectroscopy

ii) Apply spectroscopic techniques in analyzing the structure of simple organic molecules

CO 2 Acquainting the working principles of various instruments and their functions

CO 3 Understand the basic principles of symmetry and group theory and its applications in chemistry

CO 4 Study the basic principles of nanochemistry and understand the various nanofabrication methods

CO 5 Explain the important principles for quantum chemical and molecular mechanic method of computing the geometry and energy of molecules

### **CORE COURSE XVII: ENVIRONMENTAL CHEMISTRY (DISCIPLINE SPECIFIC ELECTIVE COURSE)**

#### **Course Outcome**

CO1 Know the importance of environmental studies and methods of conservation of natural resources.

CO2 Describe the structure and function of an ecosystem and explain the values and Conservation of bio-diversity.

CO3 Explain the sources, environmental effects and control measures of various types of pollutions.

CO 4: Identify the toxic chemicals in environment and understand the sources, effects and treatment of heavy metal poisoning  
CO5: Understand the methods of domestic water treatment , Sewage analysis and Sewage treatment

### **CORE COURSE XVII: APPLIED CHEMISTRY (DISCIPLINE SPECIFIC ELECTIVE COURSE)**

#### **Course Outcomes :**

CO-1 Explain the origin of coal, coal products , petroleum products and their applications.

CO-2 Explain the manufacture of fertilizers , pesticides and their applications

CO-3 Understand the manufacture of glasses, cement , ceramics and the formulations of paints and varnishes

CO-4 Familiarize with the chemistry of fats and oils and explain the production of soaps and detergents.

CO-5 Understand the chemistry of food additives and explain the manufacture and refining of pulp.

CO-6 Understand importance of industrial safety and industrial pollution control.

### **CORE COURSE XVII: POLYMER CHEMISTRY (DISCIPLINE SPECIFIC ELECTIVE COURSE)**

#### **Course Outcome**

CO 1) Classify polymers and explain the configuration of polymers and properties like glass transition temperature and melting point of polymers

CO2) Illustrate the preparation, properties and applications of polymers

CO3) Interpret the mechanism of polymerization

CO4) Acquaint various polymer processing technologies and explain thermal methods of analysis of polymers

CO5) Know the recent advances in polymer chemistry

### **CORE COURSE XVII: NANOCHEMISTRY (DISCIPLINE SPECIFIC ELECTIVE COURSE)**

#### **Course Outcomes**

CO 1: Understand the basic concepts and classification of nanomaterials.

- CO 2: Analyze different nano systems and their properties.  
CO 3 :Understand the various techniques adopted for the synthesis and characterization of nanomaterials.  
CO4 : Characterize the nanomaterials using various microscopic techniques.  
CO 5: Understand the application of nanomaterials in various fields including catalysis, photonics, and medicine

## **SYLLABUS OF BSc CHEMISTRY PRACTICAL SEMESTER I& II**

### **CORE COURSE PRACTICAL I (1B02CHE/PCH& 2B02CHE/PCH) Volumetric Analysis**

#### **Course Outcome**

- CO 1) Apply the theoretical concepts while performing experiments.  
CO2 ) Acquire practical skill to estimate acid, base, oxidizing agents etc by volumetric titration method  
CO3) Estimate the metallic ions by complexometric titration method  
CO4) Acknowledge experimental errors and their possible sources.  
CO5) Able to prepare inorganic complexes  
CO 6) Design, carry out, record and analyze the results of chemical experiments

## **SEMESTER III& IV**

### **(3B05CHE/PCH& 4B05CHE/PCH) Inorganic Qualitative Analysis**

#### **Course Outcome**

- CO 1) Apply the theoretical concepts while performing experiments.  
CO2) Acquire practical skill to analyse the anions and cations qualitatively present in a mixture of inorganic salts  
CO 3) Able to design, carry out, record and analyze the results of chemical experiments  
CO 4) Learns the effective usage of chemicals

## **SEMESTER V& VI**

### **5B11 CHE /PCH & 6B11 CHE/PCH : GRAVIMETRIC ANALYSIS**

#### **Course Outcome**

- CO1: Make use of standardised procedures for the Gravimetric analysis  
CO2: learn the skills of Precipitation process, digestion, filtration, incineration etc.  
CO3:Aquire practical Knowledge of co-precipitation  
CO4: Handle sintered glass vessels  
CO5) Acknowledge experimental errors and their possible sources.  
CO6Able to design, carry out, record and analyze the results of chemical experiments

### **5B12 CHE/PCH& 6B12 CHE/PCH : ORGANIC CHEMISTRY**

**Course Outcome**

CO 1) Apply the theoretical concepts while performing experiments.

CO2) Acquire practical skill in qualitative analysis of organic compounds

CO 3) Acquire practical skill in preparing organic compounds and in their purification by crystallisation

CO4) Separate organic compounds in a mixture –by steam distillation, TLC and Column Chromatography

CO5) Acquire the habit of working safely with the chemicals and handling of equipments

**SEMESTER VI 6B18CHE/PCH `PHYSICAL  
CHEMISTRY****Course Outcome**

CO 1) Acquire practical skill in physical chemistry experiments such as Cryoscopy, Transition Experiments, Phase Rule Experiments, Conductometric titrations, Potentiometric titrations, colorimetry and Chemical Kinetics

CO2) Learn statistical approach for evaluating data

CO3) Able to carry out and record these experiments in a skilful manner

CO4) Acquire the habit of working safely with the chemicals and handling of equipments

## **PHYSICS**

### **Programme Outcome**

#### **PO 1.Critical Thinking:**

- 1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
- 1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
- 1.4 Develop self-critical abilities and the ability to view positions, problems and social issues from plural perspectives.

#### **PO 2.Effective Citizenship:**

- 2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
- 2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations.
- 2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonial society.

#### **PO 3.Effective Communication:**

- 3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
- 3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well-informed manner.
- 3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

#### **PO 4.Interdisciplinarity:**

- 4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.
- 4.2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.  
Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

### **Programme Specific Outcome**

PSO1: Understand and apply the principles of Classical mechanics, Quantum mechanics, Thermodynamics, Nuclear physics and Electrodynamics

PSO 2:Understand and apply the principles of Solid state physics, Optics, Photonics and Spectroscopy

PSO 3: Understand the principles of Electronics, Design and test electronic circuits

PSO 4: Understand and apply the principles of Mathematical Physics and Computational Physics and do Error analysis in measurements

## **CORE COURSE I: MECHANICS I**

### **COURSE OUTCOME**

CO 1: Understand Newton's laws of motion, the concepts of linear and angular momentum and torque

CO2: Determine the Centre mass of a given configuration

CO3: Understand the principle of work, energy and power

CO4: Determine angular momentum of a body about any given axis

## **CORE COURSE III: MECHANICS II**

### **COURSE OUTCOME**

CO1: Understand the concept of Galilean transformations and uniformly accelerating systems

CO2: Determine the trajectory of a body in central force problem using Newton's laws

CO3: Understand Kepler's laws of planetary motion

CO4: Formulate the mathematical equation of waves

CO5: Understand the concept and consequences of special theory of relativity

## **CORE COURSE IV: ELECTRONICS I**

### **COURSE OUTCOME**

CO 1: Understand the basics of PN junction diode, Zener diode and their applications

CO2: Understand the structure, operations and characteristics of BJT and FET

CO3 : Understand the biasing methods and design of BJT and FET circuits

CO4: Understand the different number systems, conversions and binary arithmetic operations

CO5 : Understand the basic combinational logic gates

CO6 : Understand the Boolean algebra & logic simplification using Boolean algebra

## **CORE COURSE V: - GENERAL PHYSICS PRACTICAL I**

## **BASIC EXPERIMENTS IN PROPERTIES OF MATTER, OPTICS, ELECTRICITY & MAGNETISM**

### **COURSE OUTCOME**

CO1: Familiarize with apparatus for mechanical, electrical, magnetic and optical experiments.

CO2: Develop skill in setting up of apparatus for accurate measurement of physical quantities.

CO3: Understand multiple experimental techniques for determining physical quantities.

CO4: Develop skill in systematic way of measurements by minimizing possible errors.

CO5: Develop skill to analyze by plotting graphs using software.

CO6: Develop skill for systematic trouble shooting.

CO7: Perform error analysis for experiments.

## **CORE COURSE VI: QUANTUM MECHANICS**

### **COURSE OUTCOME**

CO 1: Understand the limitations of classical mechanics

CO2: Explain Blackbody radiation problem, Photoelectric effect and Compton Effect using quantum theory of radiation

CO3: Understand Rutherford, Bohr atom models and concept of energy and angular momentum quantisation

CO4: Understand de-Broglie hypothesis, concept of wave nature of matter and Heisenberg uncertainty principle

CO5: Determine probability of finding a particle and expectation values of variable using its wave function

CO6: Write and solve Schrodinger equation for simple quantum mechanical systems

CO7: State and explain Pauli's exclusion principle

## **CORE COURSE VII: ELECTROSTATICS AND MAGNETOSTATICS**

### **COURSE OUTCOME**

CO1: Understand the concept of Electric field, electric potential, magnetic field and magnetic potentials  
 CO2: Use the principle of superposition and law of Gauss to calculate electric field Intensity  
 CO3: Determine Electric potential of charge distributions and hence specify electric field intensity  
 CO4: Understand the basic properties of conductors and capacitors  
 CO5: Calculate the magnetic fields due to currents using Biot-Savart and Ampere laws.  
 CO6: Compare Magnetostatics and Electrostatics.  
 CO7: Understand Diamagnets, Paramagnets and Ferro magnets.

### **COURSE OUTCOME**

CO 1: Understand the concept of temperature ,the thermodynamic state and equilibrium.  
 CO2: Explain the first law of thermodynamics through work and heat and its Mathematical Formulation.  
 CO3: Understand the ideal gas equation and kinetic theory of gases  
 CO4: Understand the second law of thermodynamics and thermodynamic temperature scale.  
 CO5: Define entropy and thermodynamic potentials  
 CO6: Understand the basic concepts of Statistical mechanics

### **CORE COURSE IX: ELECTRONICS II**

#### **COURSE OUTCOME**

CO 1: Understand the AC analysis of BJT circuits and CE amplifiers  
 CO2: Understand the feedback circuits, oscillators and power amplifiers  
 CO3: Understand OPAMP basics and different OPAMP circuits  
 CO4: Understand the standard forms Boolean Expressions, Functions of Combinational Logic and K map simplifications.

### **CORE COURSE X: SOLID STATE PHYSICS & SPECTROSCOPY**

#### **COURSE OUTCOMES**

CO 1: Understand basic crystal structure and compare various crystal systems  
 CO2: State and prove Bragg's law  
 CO3: Explain X-ray diffraction and various methods to obtain diffraction pattern



CO4: Understand basic properties of semiconductors and band structure of solids

CO5: Discuss Hall Effect and list its applications

CO6: Describe various regions of EM spectrum

CO7: Distinguish between microwave and infrared spectroscopy

CO8: Define Raman Effect and explain its quantum theory

## **CORE COURSE XI :OPTICS &PHOTONICS**

### **COURSE OUTCOME**

CO 1: Understand the concept of interference and diffraction

CO2: Distinguish between Fresnel and Fraunhofer diffraction

CO3: Analyse mathematically diffraction pattern due to slits and apertures

CO4: Understand the concept of polarization and double refraction

CO5: Understand the basic principle and working of lasers

CO6: Explain different types of lasers

CO7: Understand the principle of holography and its applications

CO8: Understand the principle of total internal reflection and propagation of light through optical fibres

CO9: Compare different types of optical fibres and their applications Optics and Photonics

## **CORE COURSE XII 6B12 PHY NUCLEAR, PARTICLE & ASTROPHYSICS**

### **COURSE OUTCOME**

CO 1: Understand the structure nucleus and nuclear constituents

CO2: Define nuclear forces and nuclear reactions

CO3: Familiarize elementary particles and their properties

CO4: Understand stellar classifications

CO5: Understand basic concepts of birth of the star

CO6: Identify different stars in HR diagram

CO7: Understand the theory of death of the star

CO8: Define white dwarf, neutron star and black hole

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CO7: Understand the theory of death of the star

CO8: Define white dwarf, neutron star and black hole

## **CORE COURSE XIII :ELECTRODYNAMICS AND CIRCUIT THEORY**

### **COURSE OUTCOME**

CO 1 : Understand the basic concepts of Electrodynamics

CO2 : Explain the mathematical theory of Electromagnetic waves

CO3 : Understand different Network theorems

CO4 : Understand the basic concepts of Transient currents

## **CORE COURSE XIV: DISCIPLINE SPECIFIC ELECTIVE**

### **COURSE OUTCOME**

CO 1: Develop skills in creating program sketches of scientific problems

CO2: Develop basic skills in logical thinking and programming

CO3: To make real-life scientific problems easier on a computer with user interaction and graphics

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### **COURSE OUTCOME**

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CO2: Develop basic skills in logical thinking and programming

CO3: To make real-life scientific problems easier on a computer with user interaction and graphics

## **NANOSCIENCE**

CO 1: Understand the basic concepts of Nanoscience

CO2: Understand the properties of materials in the nano range

CO3: Identify different techniques for the production of nanomaterials

CO4: Understand characterization techniques & applications of nanomaterial.

## **MATERIAL SCIENCE**

### **COURSE OUTCOME**

CO 1: Understand the basic concepts of material science

CO2: Understand the properties of materials

CO3: Identify different engineering materials & their properties

CO4: Understand the properties & characteristics of semiconducting,insulating &magnetic materials

## **COSMOLOGY**

### **COURSE OUTCOME**

CO 1: Understand history of cosmology at different era

CO2: Explain general theory of relativity and curvature of space

CO3: Understand cosmological principle and Friedmann model

CO4: Explain expansion of universe based on Hubble's law and to state big bang theory

## **PLASMA PHYSICS**

### **COURSE OUTCOME**

CO 1: define plasma and plasma parameters

CO2: understand applications of plasma

CO3: determine the behavior of plasma in various E and B Fields

CO4:-determine the nature of plasma as a fluid

## **CORE COURSE XV: Practical II General Physics II**

### **COURSE OUTCOME**

CO1 : Familiarise with apparatus for mechanical, electrical, magnetic and optical experiments.

CO2: Develop skill in setting up of apparatus for accurate measurement of physical quantities.

CO3: Understand multiple experimental techniques for determining physical quantities.

CO4: Develop skill in systematic way of measurements by minimising possible errors.

CO5: Develop skill to analyse by plotting graphs using software.

CO6: Develop skill for systematic trouble shooting.

CO7: Perform error analysis for experiments.

## **CORE COURSE XVI: PRACTICAL III ELECTRONICS**

### **COURSE OUTCOME**

CO1: Familiarise active and passive electronic components.

CO2: Familiarise multimeter, power supply, signal generator and cathode ray oscilloscope.

CO3: Develop skill in soldering and use of breadboard.

CO4: Develop skill in construction of rectifiers, voltage regulators, amplifiers and oscillators.

CO5: Observe, measure and analyse electrical signals.

CO6: Develop skill for trouble shooting circuits and components.

CO7: Develop skill to analyse by plotting graphs using software.

## **COMPLEMENTARY ELECTIVE COURSE I: -MECHANICS**

### **COURSE OUTCOME**

CO 1: Understand the basic concepts of Properties of matter

CO2: Explain the dynamics of rigid bodies.

CO3: Understand the basic concepts of wave motion and oscillations

## **COMPLEMENTARY ELECTIVE COURSE II:ELECTRICITY, MAGNETISM AND THERMODYNAMICS**

## **COURSE OUTCOME**

CO 1: Understand the basic concepts of Magnetism & electricity

CO2: Explain the magnetic effects of electric currents

CO3: Understand the basic principles of Thermodynamics

## **COMPLEMENTARY ELECTIVE COURSE III: OPTICS AND PHOTONICS**

### **COURSE OUTCOME**

CO 1: Understand the basic concepts of Interference

CO2: Understand the basic concepts of Diffraction

CO3: Understand the basic concepts of Polarization

CO4: Understand the basic concepts of Photonics and Fibre Optics

## **COMPLEMENTARY ELECTIVE COURSE IV: ELECTRONICS AND MODERN PHYSICS**

### **COURSE OUTCOME**

CO 1: Understand the basic concepts of Basic electronics

CO2: Understand the basic concepts of Digital electronics

CO3: Understand the basic concepts of Nuclear Physics

CO4: Understand the basic concepts of Particle physics and Astrophysics

## **COMPLEMENTARY COURSE V – PHYSICS PRACTICAL**

### **COURSE OUTCOME**

CO1: Familiarise with apparatus for experiments in mechanics, optics, electricity and magnetism and electronics and electronics experiments.

CO2: Develop skill in setting up of apparatus for accurate measurement of physical quantities.

CO3: Understand multiple experimental techniques for determining physical quantities.

CO4: Develop skill in systematic way of measurements by minimizing possible errors.

## **MATHEMATICS**

### **PROGRAMME OUTCOMES (PO)**

#### *PO 1. Critical Thinking*

- 1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
- 1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
- 1.3. Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

#### *PO 2. Effective Citizenship*

- 2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
- 2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations.
- 2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonial society.

#### *PO 3. Effective Communication*

- 3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
- 3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well-informed manner.
- 3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

#### *PO 4. Interdisciplinarity*

- 4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.

- 4.2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.
- 4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

## **PROGRAMME SPECIFIC OUTCOMES OF B.SC. MATHEMATICS PROGRAMME**

PSO 1: Understand the basic concepts and tools of Mathematical logic, Set theory, Number theory, Geometry, Calculus, Algebra, Abstract structures, Linear Algebra, Analysis, Laplace transforms, Fourier series, Graph theory, and Optimization and methods of proofs.

PSO 2: Model real world problems into Mathematical problems and find solutions and understand the application of Mathematics in other Sciences and Engineering.

## **CORE COURSE 1: SET THEORY, DIFFERENTIAL CALCULUS AND NUMERICAL METHODS**

### **COURSE OUTCOMES**

CO1 : Understand Relations and Functions

CO2 : Understand limit of a function, limit laws, continuity, Inverse functions and their derivatives

CO3 : Understand successive differentiation and Leibnitz theorem

CO4 : Understand functions of several variables, limit and continuity, partial derivatives, chain rule, homogenous functions and Euler's theorem on homogenous functions

CO5 : Understand bisection method, Regula-falsi method and Newton- Raphson method to solve algebraic and transcendental equations

## CORE COURSE 2: INTEGRAL CALCULUS AND LOGIC

### COURSE OUTCOME

CO	CO Statement
CO1	Understand Hyperbolic functions
CO2	Understand Reduction formulae for trigonometric functions and evaluation of definite integrals $\int_0^{\frac{\pi}{2}} \sin^n x$ , $\int_0^{\frac{\pi}{2}} \cos^n x$ and $\int_0^{\frac{\pi}{2}} \sin^p x$ .
CO3	Understand Polar coordinates
CO4	Understand Double integrals in Cartesian and polar form.
CO5	Understand triple integrals in rectangular, cylindrical and spherical co-ordinates
CO6	Understand Substitution in multiple integrals
CO7	Understand Numerical integration: Trapezoidal rule, Simpson's 1/3 <sup>rd</sup> rule
CO8	Understand Logic and methods of proofs
CO9	Understand Propositional functions, truth set and Negation of quantified statements



**CORE COURSE 3: ANALYTIC GEOMETRY AND APPLICATIONS OF DERIVATIVES**

**COURSE OUTCOMES**

CO1	Understand cartesian equation of conics, eccentricity, polar equations for a conic, lines, circles
CO2	Understand Tangnts, Normals and Asymptotes
CO3	Understand Curvature, Radius of curvature ,Centre of Curvature, Circle of curvature and Evolutes of Cartesian and polar curves,
CO 4	Understand Rolle's Theorem, Lagrange's Mean Value Theorem, Cauchy's Mean Value Theorem and Taylors Theorem
CO5	Understand extreme values of functions, monotonic functions, first derivative test , concavity and curve sketching
CO6	Understand Indeterminate forms

**CORE COURSE 4: NUMBER THEORY AND APPLICATIONS OF INTEGRALS**

**COURSE OUTCOMES**

CO1	Understand Division algorithm, Greatest common Divisor, Euclidean Algorithm, Diophantine equation $ax+by=c$ .
CO2	Understand Primes and their distribution, fundamental theorem of arithmetic, the sieve of Eratosthenes
CO3	Understand Basic properties of congruence
CO4	Understand Picard's little theorem, Wilson's theorem and Euler's theorem
CO5	Understand Substitution and the area between curves, Arc length, Areas and length in polar co-ordinates
CO6	Understand Volumes using cross sections, volumes using cylindrical shells and areas of surfaces of revolution

**Core course 5 : SET THEORY, THEORY OF  
EQUATIONS AND COMPLEX NUMBERS**

**COURSE OUTCOMES**

CO1	Understand finite and infinite sets, Countable and Uncountable sets, Cantor's theorem.
CO2	Understand Roots of equations, Relations connecting the roots and coefficients of an equation, Transformation of equations, The cubic equation, Character and position of roots of an equation.
CO3	Understand Descarte's rule of signs, De Gua's Rule, Limits to the roots of an equation, Rational roots of equations, Newton's method of divisors, Symmetric functions of roots of an equation, Symmetric functions involving only the difference of the roots of $f(x)=0$ , Equations whose roots are symmetric functions of $\alpha, \beta, \gamma$ .
CO4	Understand Reciprocal equations.
CO5	Understand Cubic equation, Equation whose roots are the squares of the difference of the roots, Character of the Roots, Cardan's Solution
CO6	Understand Roots of complex numbers, General form of De Moivre's theorem, the $n^{\text{th}}$ roots of unity, the $n^{\text{th}}$ roots of -1, Factors of $x^n-1$ and $x^n+1$ , the imaginary cube roots of unity.
CO7	Understand polar form of complex numbers, powers and roots.

**CORE COURSE 6: REAL ANALYSIS I**

CO1	Understand Algebraic Properties, Order Properties and Absolute values of $\mathbb{R}$ . Understand the Completeness Property of $\mathbb{R}$ and its applications to derive Archimedean Property and Density theorem.
CO2	Understand intervals in the real line.
CO3	Understand Sequences and their Limits, Limit Theorems, Monotone Sequences.
CO4	Understand Subsequences and the Bolzano-Weierstrass Theorem, The Cauchy Criterion.
CO5	Understand Infinite Series, Absolute Convergence.

CO6	Understand Comparison test, Root test, Ratio test, Integral test and Raabe's test for Absolute convergence.
CO7	Understand Alternating series test, Dirichlet's test and Abel's test for Non Absolute convergence.
CO8	Understand Continuous Functions, composition of continuous functions and continuous functions on intervals.

## **CORE COURSE 7: ABSTRACT ALGEBRA**

### **COURSE OUTCOMES**

CO1	Understand definition and elementary properties of Groups, Subgroups and Cyclic groups
CO2	Understand Groups of Permutations, orbits, Alternating groups and theorem of Lagrange
CO3	Understand group homomorphisms , factor Groups
CO4	Understand Fundamental Homomorphism Theorems
CO5	Understand definition and properties of rings and fields
CO6	Understand Ring homomorphisms and isomorphisms
CO7	Understand zero divisors , integral domains , characteristic of a ring and their properties

## **CORE COURSE 8: DIFFERENTIAL EQUATIONS AND LAPLACE TRANSFORMS**

### **COURSE OUTCOMES**

CO1	Understand Separable ODEs, Exact ODEs, Linear ODEs, Bernoulli equation and methods to solve these ODEs
CO2	Understand the theorem of Existence and Uniqueness of solutions of first and second order ODEs
CO3	Understand Homogeneous Linear ODEs of Second Order and solve homogeneous linear ODEs of second order with constant coefficients and Euler-Cauchy equation
CO4	Understand Nonhomogeneous ODEs and solve by variation of parameters
CO5	Understand Laplace Transform and inverse Laplace Transformation
CO6	Understand The first and The second shifting theorems and their applications
CO7	Understand the methods to find Laplace transforms of derivatives and integrals of functions

CO8	Understand the method of differentiating and integrating Laplace transform
CO9	Solve ordinary differential equations and integral equations using Laplace transform

## CORE COURSE 9: VECTOR CALCULUS

### COURSE OUTCOMES

CO1	Understand lines and planes in space
CO2	Understand curves in space, their tangents, normal, curvature, tangential and normal curvature of acceleration
CO3	Understand Directional derivatives and gradient vectors, tangent planes and differentials. Solve extreme value problems using Lagrange multipliers
CO4	Understand Partial derivatives with constrained variables and Taylor's formula for two variables
CO5	Understand Line integrals. Solve for work, circulation and flux using line integrals
CO6	Understand path independence conservative fields and potential functions
CO7	Understand Green's theorem and solve problems using Green's theorem
CO8	Understand Surface area and surface integrals
CO9	Understand Stoke's theorem and solve problems using Stoke's theorem
CO10	Understand Divergence theorem and solve problems using Divergence theorem

## **CORE COURSE 10:REAL ANALYSIS II**

### **COURSE OUTCOMES**

CO1	Understand Uniform Continuity, Monotone and Inverse Functions
CO2	Understand Riemann Integral and Riemann-integrable Functions
CO3	Understand Fundamental Theorem of Calculus
CO4	Understand Improper Integrals
CO5	Understand Beta and Gamma Functions and their properties.
CO6	Understand Transformations of Gamma Function and Duplication formula
CO7	Understand Pointwise and Uniform Convergence of sequence of functions and Interchange of Limits
CO8	Understand Series of Functions
CO9	Understand the concept of Metric Spaces

**CORE COURSE 11:**  
**6B11 MAT: COMPLEX ANALYSIS**

**COURSE OUTCOMES**

CO1	Understand Analytic Function, Cauchy–Riemann Equations. Laplace’s Equation.
CO2	Understand Exponential Function, Trigonometric Functions, Hyperbolic Functions, Logarithmic functions and General Power of complex numbers
CO3	Understand line integral in the complex plane ,Cauchy’s integral theorem , Cauchy’s integral formula and derivatives of analytic functions
CO4	Understand convergence of Sequences and Series of complex functions
CO5	Understand power series, functions given by power series, Taylor series, Maclaurin’s Series and Laurent Series
CO6	Understand singularities and zeros of complex functions
CO7	Understand residue integration method and integrate real integrals



**CORE COURSE 12:****NUMERICAL METHODS, FOURIER SERIES AND PARTIAL DIFFERENTIAL EQUATIONS****COURSE OUTCOMES**

CO1	Understand Interpolation techniques: Interpolation with unevenly spaced points, Lagrange interpolation, Newton's divided differences interpolation, Finite difference operators and finite differences, Newton's interpolation formulae and Central difference interpolation.
CO2	Understand Numerical differentiation using difference formulae
CO3	Understand Picard's method, Solution by Taylor series method, Euler method and Runge- Kutta methods.
CO4	Understand Fourier Series: Arbitrary period, Even and Odd Functions, Half-Range Expansions and Fourier Integrals.
CO5	Understand Partial Differential equations, Solution by Separating Variables.
CO6	Understand the use of Fourier Series in solving PDE: D'Alembert's Solution of the Wave Equation. Characteristics and solving Heat Equation by Fourier Series.
CO7	Understand Laplacian in Polar Coordinates

**CORE COURSE 13:****LINEAR ALGEBRA****COURSE OUTCOMES**

CO1	Understand the concept of Vector spaces, subspaces, linear combinations and system of equations.
CO2	Understand the concept of Linear Dependence and Linear Independence, Bases and Dimension, Maximal Linearly Independent Subsets and solves problems.
CO3	Understand the concept of Linear Transformations, Null Spaces, and Ranges, The Matrix Representation of a Linear Transformation.
CO4	Understand Rank of a matrix, Elementary transformations of a matrix, Invariance of rank through elementary transformations, Normal form, Elementary matrices.
CO5	Understand the concept System of linear homogeneous equations Null space and nullity of matrix, Range of a matrix, Systems of linear non homogeneous equations.
CO6	Understand Eigen values, Eigen vectors, Properties of Eigen values, Cayley-Hamilton theorem.

**COMPLEMENTARY ELECTIVE COURSE 1:****MATHEMATICS FOR PHYSICS I****COURSE OUTCOMES**

CO1	Understand the concept of Differentiation and successive differentiation.
CO2	Understand Fundamental theorem – Rolle's theorem, Lagrange's mean-value theorem, Cauchy's mean-value theorem,.
CO3	Understand the Taylor's theorem , expansions of functions – Maclaurin's series, expansion by use of known series
CO4	Understand the Matrices and System of Equations, Linear Transformations
CO5	Understand Rank of a matrix, elementary transformations, normal form of a matrix, inverse of a matrix, solution of linear system of equations.
CO6	Understand Linear transformations, orthogonal transformation, vectors – linear dependence
CO7	Understand Derivative of arc, curvature, Polar coordinates, Cylindrical and Spherical co-ordinates

**COMPLEMENTARY ELECTIVE COURSE 2:****MATHEMATICS FOR PHYSICS II****COURSE OUTCOMES**

CO1	Understand partial derivatives, homogeneous functions, Euler's theorem, total derivative, differentiation of implicit functions, change of variables
CO2	Understand Integration and Integration by Successive Reduction , Integration of Trigonometric Functions
CO3	Comprehend Applications of Integration
CO4	Comprehend Eigen values, Eigen vectors, properties of Eigen values,
CO5	Understand Cayley- Hamilton theorem, Diagonal form, similarity of matrices, powers of a matrix, canonical form, nature of a quadratic form

### **COMPLEMENTARY ELECTIVE COURSE 3:**

#### **MATHEMATICS FOR PHYSICS III**

##### **COURSE OUTCOMES**

CO1	Understand the concept of Multiple Integrals and solves problems
CO2	Understand Vector Differentiation
CO3	Understand Laplace Transforms and its Applications
CO4	Understand Fourier Series and Half range expansions

### **COMPLEMENTARY ELECTIVE COURSE 4:**

#### **MATHEMATICS FOR PHYSICS IV**

##### **COURSE OUTCOMES**

CO1	Understand Wave Equation, Solution by Separating Variables, D'Alembert's solution of the wave equation.
CO2	Understand Heat Equation and Solution by Fourier Series
CO3	Understand Line integrals , path independence, conservative fields and potential functions, Green's theorem in the plane
CO4	Understand Surface area, surface integrals, Stoke's theorem, Divergence theorem
CO5	Understand Numerical Integration, Trapezoidal Rule, Simpson's 1/3-Rule
CO6	Understand Numerical Solutions of Ordinary Differential Equations by Taylor's series, Euler's method, Modified Euler's method, Runge-Kutta methods.

### **COMPLEMENTARY ELECTIVE COURSE 1:**

#### **MATHEMATICS FOR CHEMISTRY I**

##### **Course outcomes**

CO1	Understand Successive differentiation and Leibnitz's theorem for the nth derivative of the product of two functions
CO2	Understand Fundamental theorem – Rolle's theorem, Lagrange's mean-value theorem and Cauchy's mean value theorem.
CO3	Understand Taylor's theorem, expansions of functions – Maclaurin's series, expansion by use of known series and Taylor's series.
CO4	Understand the method of finding limits of Indeterminate forms.
CO5	Understand Polar, Cylindrical and Spherical co-ordinates.
CO6	Understand Rank of a matrix, elementary transformation of a matrix, equivalent matrices, elementary matrices, Gauss-Jordan method of finding the inverse, normal form of a matrix and partition method of finding the inverse.
CO7	Understand solution of linear system of equations – method of determinants – Cramer's rule, matrix inversion method, consistency of linear system of equations, Rouche's theorem, procedure to test the consistency of a system of equations in n unknowns, system of linear homogeneous equations.
CO8	Understand Linear transformations, orthogonal transformation and linear dependence of vectors.
CO9	Understand methods of curve fitting, graphical method, laws reducible to the linear law, principles of least squares, method of least squares and apply the principle of least squares to fit the straight line $y=a+bx$ , to fit the parabola $y=a+bx+cx^2$ , to fit $y=ax^b$ , $y=ae^{bx}$ and $xy^n=b$

### **COMPLEMENTARY ELECTIVE COURSE 1:**

#### **MATHEMATICS FOR CHEMISTRY I**

##### **Course outcomes**

CO1	Understand Successive differentiation and Leibnitz's theorem for the nth derivative of the product of two functions
CO2	Understand Fundamental theorem – Rolle's theorem, Lagrange's mean-value theorem and Cauchy's mean value theorem.
CO3	Understand Taylor's theorem, expansions of functions – Maclaurin's series, expansion by use of known series and Taylor's series.
CO4	Understand the method of finding limits of Indeterminate forms.
CO5	Understand Polar, Cylindrical and Spherical co-ordinates.
CO6	Understand Rank of a matrix, elementary transformation of a matrix, equivalent matrices, elementary matrices, Gauss-Jordan method of finding the inverse, normal form of a matrix and partition method of finding the inverse.

CO7	Understand solution of linear system of equations – method of determinants – Cramer’s rule, matrix inversion method, consistency of linear system of equations, Rouché’s theorem, procedure to test the consistency of a system of equations in n unknowns, system of linear homogeneous equations.
CO8	Understand Linear transformations, orthogonal transformation and linear dependence of vectors.
CO9	Understand methods of curve fitting, graphical method, laws reducible to the linear law, principles of least squares, method of least squares and apply the principle of least squares to fit the straight line $y=a+bx$ , to fit the parabola $y=a+bx+cx^2$ , to fit $y=ax^b$ , $y=ae^{bx}$ and $xy^n=b$

## COMPLEMENTARY ELECTIVE COURSE 2:

### MATHEMATICS FOR CHEMISTRY II

#### COURSE OUTCOMES

CO1	Understand Functions of two or more variables, limits and continuity.
CO2	Understand partial derivatives, homogeneous functions, Euler’s theorem on homogeneous functions, total derivative, differentiation of implicit functions and change of variables.
CO3	Understand Reduction formulae for trigonometric functions and evaluation of definite integrals $\int_0^{\frac{\pi}{2}} \sin^n x \, dx$ $\int_0^{\frac{\pi}{2}} \cos^n x \, dx$
CO4	Understand Substitutions and the area between curves, arc length, areas and length in polar coordinates.
CO5	Understand Double and Iterated Integrals over rectangles, double integrals over general regions, area by double integration, double integrals in polar form and triple integrals in rectangular co-ordinates.
CO6	Understand Eigen values, Eigen vectors, properties of Eigen values, Cayley- Hamilton theorem, reduction to diagonal form, similarity of matrices, powers of a matrix, reduction of quadratic form to canonical form and nature of a quadratic form

### COMPLEMENTARY ELECTIVE COURSE 3: MATHEMATICS FOR CHEMISTRY III

#### COURSE OUTCOMES

CO1	Understand Ordinary differential equations, Geometrical meaning of $y'=f(x, y)$ and Direction Fields.
CO2	Understand Methods of solving Differential Equations: Separable ODEs, Exact ODEs, Integrating Factors, Linear ODEs and Bernoulli Equation.
CO3	Understand Orthogonal Trajectories, Existence and Uniqueness of Solutions.
CO4	Understand Second order ODEs, Homogeneous Linear ODEs of second order, Homogeneous Linear ODEs with constant coefficients, Differential Operators, Euler-Cauchy Equation, Existence and Uniqueness of Solutions – Wronskian, Nonhomogeneous ODEs and Solution by variation of Parameters
CO5	Understand Laplace Transform, Linearity, first shifting theorem, Transforms of Derivatives and Integrals, ODEs, Unit step Function, second shifting theorem, Convolution, Integral Equations, Differentiation and integration of Transforms and to solve special linear ODE's with variable coefficients and Systems of ODEs
CO6	Understand Fourier series, arbitrary period, Even and Odd functions, Half-range Expansions.

### COMPLEMENTARY ELECTIVE COURSE 4: MATHEMATICS FOR CHEMISTRY IV

#### COURSE OUTCOMES

CO1	Understand Partial Differential Equations, Modeling, Vibrating String, Wave Equation..
CO2	Solve PDE by Separating Variables, by use of Fourier Series, D-Alembert's solution of the wave equation and Heat Equation.
CO3	Understand Numerical Integration, Trapezoidal Rule, Simpson's 1/3-Rule
CO4	Understand Numerical methods to find Solutions of Ordinary Differential Equations: Solution by Taylor's series, Euler's method, Modified Euler's method, Runge-Kutta methods.
CO5	Understand volumes of solid using cross sections and areas of surfaces of revolution



## B.A ENGLISH CORE

### Programme Outcomes (PO)

#### **PO 1.Critical Thinking:**

- 1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
- 1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
- 1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

#### **PO 2.Effective Citizenship:**

- 2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide arepublic.
- 2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds ofdiscriminations.
- 2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonialsociety.

#### **PO 3.Effective Communication:**

- 3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern IndianLanguage
- 3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well-informed manner.
- 3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creativethinking.

#### **PO 4.Interdisciplinarity:**

- 4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the humanmind.
- 4.2. Understand the issues of environmental contexts and sustainabledevelopment as a basic interdisciplinary concern of alldisciplines.
- 4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensiveperspective

## Programme Specific Outcomes for BA in English Language and Literature

PSO 1. Understand the historical contexts behind the origin and development of English literature with a special focus on various movements and the important works belonging to such movements.

PSO 2. Understand the current methodological issues in the study of literature and apply various reading strategies employed to selected literary as well as cultural texts.

PSO 3. Understand and apply the extended meaning of “English Literature” to various post-colonial and other writings in English.

PSO 4. Understand the basics of disciplines like Film Studies, Culture Studies, Fine Arts, Women’s Writing, Dalit Writings, Post-colonial writing, Indian writing in English, Malayalam Literature and Literatures in Translation.

PSO 5. Understand and appreciate the interdisciplinary links that literary studies have with disciplines like Philosophy, History, Political Science, Sociology, Anthropology and the Sciences.

## Course Outcomes and Content Specifications for Common Courses

### **COMMON COURSE I Communicative English**

#### ***Course Outcomes***

- ☒ 1. Understand and apply the rubrics of English grammar
- ☒ 2. Recognize and apply the basic patterns in English vocabulary
- ☒ 3. Read and elicit data, information, inferences and interpretations based on a given material in English
- ☒ 4. Develop the ability to speak in English in real life situations
- ☒ 5. Elicit necessary information after listening to an audio material in English
- ☒ 6. Compose academic and non-academic writings including letters, paragraphs and essays on a given topic and CV’s for specific purposes

### **COMMON COURSE 2. Readings on Kerala**

#### ***Course Outcomes***

- ☒ 1. Understand the basic facts and patterns regarding the cultural evolution of Kerala through articles, poems, stories, life writings and historical narratives.
- ☒ 2. Acquaint with the life and works of the illustrious leaders of Kerala Renaissance and the major events.
- ☒ 3. Assimilate the notion of Kerala as an emerging society and critically examine the

salient features of its evolution.

- ☒ 4. Understand the evolution and contemporary state of the concept of “gender” with reference to Kerala
- ☒ 5. Understand the form and content of Kerala’s struggle against “casteism” and for “secularism”
- ☒ 6. Develop an awareness about the ecological problems and issues in Kerala

### **COMMON COURSE 3. Readings on Life and Nature**

#### ***Course Outcomes***

- ☒ 1. Understand the basic themes and issues related to ecology through articles, poems, stories, life writings and historical narratives.
- ☒ 2. Assume ecologically friendly attitudes in events related to everyday life.
- ☒ 3. Identify the specific ecological problems related to Kerala.
- ☒ 4. Identify the major ecological movements around the world and within the country.
- ☒ 5. Ability to express specific opinions when confronted with ecology/development binary.
- ☒ 6. Identify the major or minor ecological issues happening around the student’s native place.

### **COMMON COURSE 4. Readings on Gender**

#### ***Course Outcomes***

- ☒ 1. Understand the basic themes and issues related to gender through articles, poems, stories, life writings and historical narratives.
- ☒ 2 Understand the basic topics related to gender studies.
- ☒ 3. Understand gender as a social construct and also as a site of struggle.
- ☒ 4. Critically engage with certain seminal topics that have become a part of gender studies.
- ☒ 5. Understand the basic gender issues faced by Kerala.
- ☒ 6. Appreciate and use gender sensitive and politically right terms and usages in everyday life.

### **COMMON COURSE 5. Readings on Democracy and Secularism**

#### ***Course Outcomes***

- ☒ 1. Understand the relationship between higher education and nation building.
- ☒ 2. Understand the basic Constitutional values and themes through articles, poems, stories, life writings and historical narratives.
- ☒ 3. Evolve a deeper understanding and appreciation of the meaning of the words sovereignty, socialism, secularism and democracy in the Indian context.
- ☒ 4. Appreciate the relationship between higher education and the Constitutional directives regarding “scientific temper” and “the spirit of enquiry”.
- ☒ 5. Appreciate the prevalence of “human rights” as a prerequisite for democratic living

## **COMMON COURSE 6. Readings on Philosophy of Knowledge**

### ***Course Outcomes***

1. Understand the basic issues related to construction and acquisition of knowledge through articles, poems, stories, life writings and historical narratives.
2. Understand the relationship between higher education and nation building.
3. Evolve a deeper understanding of disciplines, multi-disciplinary approaches, interdisciplinary approaches and the various systems of knowledge.
4. Understand knowledge as a social construct and the dynamics of paradigm shifts.
5. Understand the epistemological and ontological factors within higher education.
6. Understand logical fallacies and apply critical thinking.

## **English Common Course (ECC)- 2A03 ENG Readings on Life and Nature**

### ***Course Outcomes***

1. Understand the basic themes and issues related to ecology through articles, poems, stories, life writings and historical narratives.
2. Assume ecologically friendly attitudes in events related to everyday life.
3. Identify the specific ecological problems related to Kerala.
4. Identify the major ecological movements around the world and within the country.
5. Ability to express specific opinions when confronted with ecology/development binary.
6. Identify the major or minor ecological issues happening around the student's native place.

## **English Common Course (ECC)- 2A04 ENG Readings on Gender**

### ***Course Outcomes***

1. Understand the basic themes and issues related to gender through articles, poems, stories, life writings and historical narratives.
2. Understand the divergent approaches towards gender issues.
  3. Understand gender as a social construct and also as a site of struggle.
  4. Critically engage with certain seminal topics that have become a part of gender studies.
  5. Understand the basic gender issues faced by Kerala.
  6. Appreciate and use gender sensitive and politically right terms and usages in everyday life.

**Course Outcomes for Core Courses****1B01 ENG Malayalam Literature in English Translation****Course Outcomes**

CO 1: Understand the word „literature“ and „literary“ in a broad and inclusive perspective by reading

select literary pieces and by applying critical reading strategies.

CO 2: Recognise and describe literary genres and its subclasses.

CO 3: Describe with examples select literary terms and concepts.

CO 4: Understand the basic issues related to translation and in that process develop a sensibility for native and local literatures.

CO 5: Use English to translate and describe everyday activities, regional themes and personal narratives

by reading Malayalam literature in translation.

CO 5: Learn to read, enjoy, analyse and critically engage with select literary pieces on their own with

minimum guidance.

### **2B02ENG Academic Writing, Methodology and Research Project**

#### **Course Outcomes**

1 1. Understand and apply the nuances of academic writing.

1 2. Understand the various methodological as well as epistemological aspects of literary studies.

1 3. Familiarise with the approaches to literature.

1 4. Choose a tentative topic for the research project to be submitted in semester six.

### **3B03ENG Old English to Medieval English Literature (500-1500)**

#### **Course Outcomes**

1 1. Have an understanding of the contexts which produced Old English literature.

1 2. Read translation extracts from key texts of the Old English period

1 3. Understand the key aspects of Old English language.

1 4. Understand the key genres, authors, texts, styles and themes of the Medieval English Period.

1 5. Read excerpts from the variety of writings produced during this period.

1 6. Understand the key aspects of Medieval English dialects.

### **3B04ENG Renaissance and Restoration Literatures (1485-1780)**

#### **Course Outcomes**

1 1. Define Renaissance literature/ Problems of definition

1 2. Trace the relationship between political economy, cultural history and production of arts and literature during the early modern period

3. Read specimens of major works belonging to the Renaissance period.
4. Understand the problematics of “modernisation” of Britain including the development of political parties and parliamentary democracy through the cultural productions of Restoration period
- 1 5. Identify literary narratives that deal with slave trade and colonial aspirations.
- 1 6. Understand the development of literary criticism as a meta-narrative to literature.
- 1 7. Read specimens of major works belonging to the Restoration period. **4B05ENG The**

### **Romantic Period (1780-1832)**

#### **Course Outcomes**

- 1 1. Understand the cultural history of the period and recognise the features of literary romanticism
- 1 2. Trace the relationship between political economy, cultural history and production of arts and literature with reference to the romantic period
- 1 3. Read specimens of major works belonging to the period.

### **4B06ENG The Victorian Period (1832-1901)**

#### **Course Outcomes**

- 1 1. Understand a range of Victorian literature in relation to a range of contexts including Victorian anxieties about modernity, madness, sexual transgression and disease.
- 1 2. Analyze the work of a range of Victorian writers, both canonical and less well-known, and with a range of genres including the novel, short story and poetry.
- 1 3. Identify and discuss theoretical discourses concerning class, sexuality, gender and colonialism as these illuminate a range of Victorian texts.
- 1 4. Understand and successfully deploy a range of terms and concepts integral to Victorian literature.

### **5B07ENG The Early Twentieth Century ((1901-1939)**

#### **Course Outcomes**

- 1 1. Understand the cultural, political, and stylistic protocols of modernism and its various literary

movements.

1 2. Trace the relationship between political economy, cultural history and production of arts and literature

1 3. Read specimens of major works belonging to the period.

### **5B08ENG The Late Twentieth and Twenty-First Centuries(1939-2018)**

#### **Course Outcomes**

1 1. Understand the cultural, political, and stylistic protocols of post-modernism and the various literary movements

1 2. Understand and apply the basics of the various reading strategies that emerged during the period

1 3. Read specimens of major works belonging to the period.

### **5B09ENG Postcolonial Literatures in English**

#### **Course Outcomes**

1 1. Understand the meaning, scope and issues related to the term postcolonial.

1 2. Read specimens of major works belonging to the genre.

1 3. Familiarise with the cardinal concepts of postcolonial theory.

### **5B10ENG Linguistics**

#### **Course Outcomes**

1 1. Learn the theories regarding origin, development and history of languages.

2. Familiarise with the cardinal concepts related to “linguistics”.

1 3. Understand the modern directions in linguistic studies.

### **6B11ENG Project**

#### **Course Outcomes**

1 1. Learn and apply specific documentation styles and methodological formalities.



- 1 2. Critically engage with a literary theme or topic.
- 1 3. Understand the basic formalities regarding research in humanities.

### **6B12ENG Critical Theory**

#### **Course Outcomes**

- 1 1. Understand the basics of various theoretical positions in literary and culture studies.
- 1 2. Apply specific theoretical insights into the study of specific works of art as well as cultural articulations.
- 1 3. Understand the ideological assumptions underlying common-sense notions and canon formation.

### **6B13ENG Women's Writing**

#### **Course Outcomes**

1. Understand women's writing as a specific genre.
2. Appreciate the variety in women's literature and the correlation between such variety and specific socio-political contexts.
3. Understand the various dialogic positions within women's writing.

### **6B14ENG Indian Writing in English**

#### **Course Outcomes**

- 1 1. Understand Indian Writing in English as a specific genre based on certain common sociopolitical contexts.
- 1 2. Understand the various dialogic positions within Indian Writing in English.
- 1 3. Understand the regional diversities and thematic plurality of IWE.

### **6B15ENG Film Studies**

#### **Course Outcomes**

- 1 1. Learn the basic terminology, technical aspects, and the major movements in the history of cinema.

- 1 2. Watch select movies and analyse them with an eye on technical, thematic and socio-political aspects.
- 1 3. Develop basic knowledge and familiarity with the various trends in Indian cinema.

## **ECONOMICS**

### **PROGRAMME OUTCOMES (PO)**

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#### **PO1. Critical Thinking**

- 1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
- 1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
- 1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

#### **PO2. Effective Citizenship**

- 2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
- 2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations.
- 2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonial society.

#### **PO3. Effective Communication**

- 3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
- 3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well-informed manner.
- 3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

#### **PO4. Inter disciplinary**

- 4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.
- 4.2. Understand the issues of environmental contexts and

sustainable development as a basic interdisciplinary concern of all disciplines.

Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective

The specific outcomes of the programme are summarized below:

1. The programme with structured curricula will support the academic development of the undergraduates.
2. The programme will provide the students with the opportunity to pursue courses that emphasize quantitative, qualitative and theoretical aspects of economics.
3. The programme will provide a well resourced teaching learning environment for the students of economics, which will definitely lead to the ultimate educational goal of “learning to be”.
4. The programme will promote academic writing, critical thinking and research aptitude among the students.
5. Needless to point out, the students will gain a source of livelihood by expanding their skill set and widening their knowledge horizon.

### **CORE COURSE I: MICROECONOMIC ANALYSIS I**

#### **COURSE OUTCOME**

*The Course Outcomes are the knowledge and skills the student acquire at the end of a course.*

1. A strong theoretical and empirical foundation in economics which produces employable graduates and has scope for a variety of opportunities for higher education in economics and related disciplines.
2. Students familiarity about the tool box of micro economics will enhance the capacity for understanding the functioning of economies.
3. A thorough knowledge and theoretical understanding of the foundations of modern economic analysis

### **CORE COURSE I: MICROECONOMIC ANALYSIS I**

### **CORE COURSE II: MICROECONOMIC ANALYSIS II**

#### **COURSE OUTCOME**

1. Students may acquire confidence to apply the principles of micro economics to the decision making of firms and the functioning of the market.

2. Students will also be able to analyze the distributional dynamics of the economy both at the micro and the macro level

### **CORE COURSE I: MICROECONOMIC ANALYSIS I**

### **CORE COURSE II: MICROECONOMIC ANALYSIS II**

#### **COURSE OUTCOME**

Students may acquire confidence to apply the principles of micro economics to the decision making of firms and the functioning of the market.

Students will also be able to analyze the distributional dynamics of the economy both at the micro and the macro level

### **CORE COURSE III: CENTRAL THEMES IN INDIAN ECONOMY**

#### **COURSE OUTCOME**

1. To help the students to identify the basic structure and working of Indian economy by enabling them to use qualitative and quantitative data relating to various economic issues and policies.
2. Students may get an opportunity to identify the strategic drivers in the development of Indian Economy.
3. It will create an environment to comprehend and critically appraise the current problems and policies relating to Indian economy.

### **CORE COURSE IV: INTERNATIONAL ECONOMICS**

#### **COURSE OUTCOME**

1. Enabling the students to assess current international economic issues based on theory and evidence.
2. Preparing the students to undertake higher studies and research in issues related to International Economics
3. Students may get an opportunity to examine the trends in global economic performance

### **CORE COURSE V**

### **RESEARCH METHODS AND TECHNIQUES FOR ECONOMIC ANALYSIS**

## **COURSE OUTCOME**

- 1.To initiate students to the field of academic research.
- 2.Introduce quantitative, qualitative and analytical tools required to prepare small research projects.
- 3.To bridge the gap between theory and empirics and to familiarize the use and importance of data in research
- 4.To highlight the importance of scientific research in economics based on academic honesty, integrity and ethics

## **CORE COURSE VI: ENVIRONMENTAL ECONOMICS**

### **COURSE OUTCOME**

- 1.To provide a deeper understanding about the interface between ecology and economy.
2. Understand the economic incentives to improve and conserve the environment.
- 3.To provide basic conceptual understanding of environmental disaster, its management and mitigation
- 4.Ultimately, greater awareness will be imparted about the issues of environmentally sustainable development in an interdisciplinary perspective.

## **CORE COURSE VII:**

### **BASIC TOOLS FOR ECONOMIC ANALYSIS I**

#### **COURSE OUTCOME**

1. To enable the students to understand economic concepts with the aid of mathematical and Statistical tools.
2. To equip the students to quantify economic variables and to enable them to apply statistical techniques in Economics.
3. To analyze and interpret empirical data with the help of statistical tools

## **CORE COURSE VIII: HETERODOX ECONOMICS**

### **Course Outcome**

- 1.Familiarity with different perspectives of alternative schools of thought may get easily exposed to pluralistic approach to both economic theory and policy.
- 2.Through such an exposure the course will enhance and diversify the knowledge profile of the students and may get opportunities to pursue higher studies and research in heterodox economics.

***CORE COURSE IX MACROECONOMIC ANALYSIS -***

***I-***

**COURSE OUTCOME**

1. Students will be able to get a perspective on the working of an economy.
2. By sharpening the macroeconomic tool box students will be able to appreciate macroeconomic policies.
3. Enables the students to pursue higher studies in the core domain of economics

***CORE COURSE IX MACROECONOMIC ANALYSIS -***

***I-***

**COURSE OUTCOME**

- 1.Students will be able to get a perspective on the working of an economy.
- 2.By sharpening the macroeconomic tool box students will be able to appreciate macroeconomic policies.
- 3.Enables the students to pursue higher studies in the core domain of economics

***CORE COURSE X: DEVELOPMENT ECONOMICS***

**COURSE OUTCOME**

1. To make the students aware of the methodological and measurement issues relating to growth and development.
2. To enable the students to understand the theory and empirics of Development Economics with special reference to less developed countries
3. To provide an understanding about the various development issues and the development gap between policy and practice.

**CORE COURSE XI: ECONOMICS OF BANKING AND FINANCE**

**Course Outcome**

- 1 The students will be equipped with theoretical as well as practical aspects of the structure and working of financial system and regulatory mechanisms.
- 2 The course is expected to expand the skill set of the students for higher studies and employment in finance
- 3 The students will be aware of the innovations and the related trends in the field of banking and finance with special reference to instruments like derivatives.

**CORE COURSE XII BASIC TOOLS FOR  
ECONOMIC ANALYSIS II**

**COURSE OUTCOME**

1. To enable the students to understand and interpret economic concepts with the aid of mathematical and statistical tools.
2. To enable students to apply statistical techniques in Economics.
3. To analyze and interpret empirical data with the help of statistical tools

**CORE COURSE XIII: MACROECONOMIC ANALYSIS II**

**COURSE OUTCOME**

1. Students will be equipped with a sound idea of advancements in macro economics with tools like IS-LM and the developments there after.
2. Students will be equipped with the theories of economic fluctuations and needed policy intervention
3. Student will be able to develop critical thinking and research inquisitiveness in macro economics
4. Opportunities to higher studies and prospects for employment through the knowledge of theories and concepts in Macroeconomics will be enhanced.

**CORE COURSE XIV: PUBLIC ECONOMICS**

**COURSE OUTCOME**

1. Better conceptualization of the economic rationale of govt. in terms of allocation, distribution, stabilization and growth in a federal system
2. Better exposure to resource mobilization by the govt. through innovative fiscal instruments like GST.
3. Students are expected to get an overall perspective of public policy and the development programmes aimed at public welfare as well

**CORE COURSE XIV: PUBLIC ECONOMICS**

**COURSE OUTCOME**

4. Better conceptualization of the economic rationale of govt. in terms of allocation, distribution, stabilization and growth in a federal system
5. Better exposure to resource mobilization by the govt. through innovative fiscal instruments like GST.
6. Students are expected to get an overall perspective of public policy and the development programmes aimed at public welfare as well



## **CORE COURSE XV: BASIC ECONOMETRIC ANALYSIS**

### **COURSE OUTCOME**

1. This course provides a comprehensive introduction to basic econometric concepts, methodology and techniques of analysis.
2. The Students will acquire knowledge and adequate skills for the development of simple linear econometric models.
3. The students will be able to perform econometric analysis relating to their project work and future research and development.

## **COMPLEMENTARY ELECTIVE COURSE 01: MATHEMATICS FOR ECONOMIC ANALYSIS I**

### **COURSE OUTCOME**

1. Students will be equipped with the basics of mathematical tools and their application for better understanding and interpretation of economic theory.
2. This course is expected to provide students with an elementary introduction to mathematical concepts that are used in the study of economics at UG level.
3. The basic outcome of the course will be the enhancement of skills in applying mathematical concepts that are indispensable for in depth study of theoretical as well as empirical economics.

## **COMPLEMENTARY ELECTIVE COURSE 01: MATHEMATICS FOR ECONOMIC ANALYSIS I**

### **COURSE OUTCOME**

1. Students will be equipped with the basics of mathematical tools and their application for better understanding and interpretation of economic theory.
2. This course is expected to provide students with an elementary introduction to mathematical concepts that are used in the study of economics at UG level.
3. The basic outcome of the course will be the enhancement of skills in applying mathematical concepts that are indispensable for in depth study of theoretical as well as empirical economics.

## **COMPLEMENTARY ELECTIVE COURSE 02: MATHEMATICS FOR ECONOMIC ANALYSIS II**

### **COURSE OUTCOMES**

1. The course will provide the basics of mathematical tools for analyzing economic theory.
2. The analytical ability of students in dealing with economic theories and concepts is expected to be enhanced by involving in calculus and matrix algebra

**COMPLEMENTARY ELECTIVE COURSE 03:  
MATHEMATICAL ECONOMICS-I**

**COURSE OUTCOMES**

1. Understanding of the basic mathematical concepts and tools will be improved.
2. Students will be able to conceptualize economic problems mathematically and develop skills in applying mathematical tools and techniques in microeconomic theory.

**COMPLEMENTARY ELECTIVE COURSE 04:  
MATHEMATICAL ECONOMICS-II**

**COURSE OUTCOMES:**

1. The course will provide an understanding of the fundamental concepts of linear programming, input output analysis and game theory and their applications in economics.
2. It will enhance the capacity of the students in recognizing an economic variable with the help of mathematical tools

**COMPLEMENTARY ELECTIVE COURSE 05:  
INTRODUCTORY ECONOMICS -I**  
**COURSE OUTCOME**

1. The students will get an overall background of the economic theory
2. Specific inputs from micro economics covering the fundamental concepts will improve their analytical skills

**COMPLEMENTARY ELECTIVE COURSE 06:  
INTRODUCTORY ECONOMICS II**

**COURSE OUTCOME**

1. To familiarize the students about the subject matter of economics mainly relating to concepts in macro economics and public finance.
2. Students are expected to get an awareness of the development issues of Indian economy with special reference to poverty, inequality, unemployment and black economy.

**COMPLEMENTARY ELECTIVE COURSE 07: HISTORY OF  
ECONOMIC THOUGHT- I**

**COURSE OUTCOMES**

1. Students are expected to get an idea of the economic philosophy in a historical perspective
2. Students are also exposed to heterogeneous thinking in economics

**COMPLEMENTARY ELECTIVE COURSE 08: HISTORY  
OF ECONOMIC THOUGHT- II**

**COURSE OUTCOMES**

1. Students are expected to get an idea of the economic philosophy in a historical perspective
2. Students are also exposed to some of the heterogeneous thinking in economics like Neoclassical, Keynesian and Indian economic thinking

**COMPLEMENTARY ELECTIVE COURSE 09: POPULATION AND DEVELOPEMNT**

**COURSE OUTCOME**

1. Students will be able to identify the linkage between population and development
2. Students will be able to get an idea of the basic demographic concepts like fertility, mortality, migration and urbanization
3. Students are also expected to get an understanding on the regional, national and global population trends
- 4.

**COMPLEMENTARY ELECTIVE  
COURSE 10: ECONOMIC  
GEOGRAPHY**

**COURSE OUTCOME**

1. Students will be exposed to the emerging branch of economic geography.
2. The course will provide preliminary inputs for sharpening their analytical tools of economic geography.
3. Students will also get an idea of geography of key economic variables in the Indian context

**COMPLEMENTARY ELECTIVE COURSE 11  
AGRICULTURAL ECONOMICS**

**COURSE OUTCOME**

1. The course is expected to provide a basic knowledge of the essentials of agricultural economics

2. Students are expected to get an opening for higher studies and research in agricultural economics
3. The course will help students to get an agrarian entrepreneurship towards a source of livelihood.

***COMPLEMENTARY ELECTIVE COURSE 12: GENDER ECONOMICS***

**COURSE OUTCOMES**

1. Students will be having an understanding of the basic concepts relating to gender as a social construct and its link with development.
2. Students are exposed to gender challenges to development

## **B.COM**

### **PROGRAMME OUTCOMES (PO)**

#### **PO 1.Critical Thinking:**

- 1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
- 1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
- 1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

#### **PO 2.Effective Citizenship:**

- 2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
- 2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations.
- 2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonial society.

#### **PO 3.Effective Communication:**

- 3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
- 3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well- informed manner.
- 3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

#### **PO 4.Interdisciplinarity:**

- 4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.
- 4.2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.
- 4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

### **PROGRAMME SPECIFIC OUTCOME OF B.COM DEGREE**

After the successful completion of the B.Com Degree Programme, the students shall be able to;

#### **PSO 1:**

Understand the concepts and techniques of commerce and its application in business environment

PSO 2:

Conceive the ideas on entrepreneurship and develop the skills for setting up and management of business organizations

PSO 3:

Develop the skills and abilities to become competent and competitive in the business world

PSO 4:

Develop the competency to take wise decisions at personal and professional level

PSO 5:

Appraise the impact of other disciplines on the working of business

### **CORE COURSE I : - MANAGEMENT CONCEPTS AND PRINCIPLES COURSE OUTCOME**

After studying the course, students shall be able to;

CO1:- Understand the evolution of management thoughts, concept of management, scope and its functions.

CO2:- Familiarize with current management practices. CO3:- Understand the importance of ethics in business.

CO4:- Acquire knowledge and capability to develop ethical practices for effective management.

CO5:- Describe the emerging trends in management.

### **CORE COURSE II : FUNCTIONAL APPLICATIONS OF MANAGEMENT COURSE OUTCOME**

After studying this course, the students shall be able to;

CO 1: Describe nature and scope of financial management and the elements in the management of finance

CO 2: Enumerate marketing management and its different aspects

CO 3: Explain Human Resources Management and the activities involved in it  
CO 4: Understand the modern global marketing trends and its challenges

### **CORE COURSE III : ADVANCED ACCOUNTING**

#### **COURSE OUTCOME**

After studying the course, the students shall be able to;

CO 1. Understand the theoretical and practical knowledge of the basics of accounting. CO 2. Acquire the knowledge of accounting for royalty, Consignment and Hire Purchase CO 3. Imbibe the accounting concepts of Inland Branch Business. CO 4. Comprehend the procedure for determining profit and financial position from incomplete records.

### **CORE COURSE V : CORPORATE ACCOUNTING**

#### **COURSE OUTCOME**

After studying this course, the students shall be able to;

CO 1: Understand the mode of presentation and understanding of financial reporting . CO 2: Learn the accounting procedure for recording transaction relating to the issue and redemption of shares and debentures.

CO 3: Imbibe the techniques of recording transactions in respect of amalgamation, reconstruction and liquidation of companies..

CO 4: Understand the concept of IFRS and Ind AS

### **CORE COURSE VII: BUSINESS RESEARCH METHODOLOGY**

#### **COURSE OUTCOME**

CO 1: Understand the fundamental aspects of research in business

CO2: identify and define research problem

CO 3: formulate research plan

CO 4: understand various methods of collecting

data CO 5: prepare research report themselves

## **CORE COURSE VIII : INCOME TAX LAW AND PRACTICE**

### **COURSE OUTCOME**

CO 1 Define the basic concepts in Income tax, explain its evolution  
CO 2 Determine the residence and incidence of Tax  
CO 3 Understand the incomes exempt from tax of an individual  
CO 4 Compute income under different heads of income

## **CORE COURSE IX: COST ACCOUNTING**

### **COURSE OUTCOME**

CO 1: Explain the nature, scope, objectives and limitations of costing  
CO 2: Identify the elements of cost and describe the methods of their ascertainment and control  
CO 3: Explain the various methods of costing and their suitability for different industries  
CO 4: Ascertain the cost of production of products and jobs

## **CORE COURSE X : BANKING PRINCIPLES AND OPERATIONS**

### **COURSE OUTCOME**

CO 1: Explain banking and describe the different types of banks and the functions of commercial bank  
CO 2: Narrate the role of RBI in the credit control, promotion and regulation of monetary system  
CO 3: Describe the relationship between banker and customer and the procedure for opening and operating the account  
CO 4 : Understand the modern trends and technology used in banking

## **CORE COURSE XII : FINANCIAL MARKETS AND SERVICES**

### **COURSE OUTCOME**

CO 1: understand the financial system and its constituents  
CO2: familiarise with the activities taking place in the financial markets  
CO 3: Appraise the various financial services available in the financial markets  
CO 4: acquire knowledge about financial derivatives and their features

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### **CORE COURSE XIII : MANAGEMENT ACCOUNTING**

#### **COURSE OUTCOME**

CO 1. understand the fundamental concepts of management accounting.  
CO 2. acquire analytical skills associated with the interpretation of accounting reports  
CO 3. apply management accounting concepts in real life situations.  
CO 4. develop judgmental skills associated with the use of accounting information in decision making.  
CO 5. understand the use of marginal costing and budgetary control to plan and control cost and profit.

### **CORE COURSE XIV: AUDITING AND CORPORATE GOVERNANCE**

#### **COURSE OUTCOME**

CO 1: understand the term auditing, its concept, principles, procedures and requirements needed for Auditing in accordance with current legal requirements and professional standards.

CO 2: familiarize with the various aspects of audit consisting of internal check, vouching, verification and valuation of assets and liabilities

CO 3: understand the appointment, rights, duties and the liabilities of an auditor.  
CO 4: explain the concept of Corporate Governance and its aspects

### **CORE COURSE XV: INCOME TAX AND GST**

#### **COURSE OUTCOME**

CO 1: Compute total income and determine the tax liability of an individual and partnership firm, company and cooperative society  
CO 2: Describe the income tax authorities, their powers and assessment procedure  
CO 3: Explain the procedure regarding deduction of tax at source, advance tax, refund, penalties and prosecution  
CO 4: Describe Goods and Service Tax, its levy and collection

### **ELECTIVE STREAM I – CO-OPERATION**

#### **CORE COURSE IV : CO-OPERATION I – CO-OPERATIVE PRINCIPLES**

CO 1: Understand the concepts and principles of Cooperative movement

CO2: Understand the origin of cooperative movement and the history of cooperatives in the world

CO 3: Describe Indian cooperative movement, its features , structure and significance CO 4: Acquaint themselves with the system of cooperative education, training and its impact on the functioning of cooperative organisations

## **CORE COURSE VI : CO-OPERATION II – MANAGEMENT OF CO-OPERATIVES**

### **COURSE OUTCOME**

CO 1: Understand kinds of cooperatives in India

CO 2: Understand the management and administration of different types of cooperatives CO 3: Identify the role and significance of cooperative organization in Kerala's Economy

CO 4: Describe various kinds of cooperative institutions

## **CORE COURSE XI : CO-OPERATION III – CO-OPERATIVE LAWS**

### **COURSE OUTCOME**

CO 1: Understand the historical perspective of cooperative legislation in India and Kerala.

CO2: Understand the provisions of Kerala cooperative Societies Act 1969

CO 3: Describe the procedure for the formation and registration of a cooperative organisation

CO 4: describe the provisions of management and winding up of cooperative societies

## **CORE COURSE XVI : CO-OPERATION IV – CO-OPERATIVE ACCOUNTING AND LEGISLATIONS**

### **COURSE OUTCOME**

CO 1: prepare and present accounting aspects of cooperative organisations CO 2: understand the procedure of cooperative auditing

CO 3: Understand the provisions regarding the settlement of disputes in cooperatives CO 4: Acquaint knowledge on the impact of various other legislations on cooperatives

## **ELECTIVE STREAM II – COMPUTER APPLICATION**

### **CORE COURSE IV : COMPUTER APPLICATION I –Introduction to computers and Network**

#### **COURSE OUTCOME**

After studying the course, the students shall be able to;

CO 1: Understand about computer, peripherals, software and operating system

CO 2: Understand the importance of IT in the modern world and recent development in IT

CO 3: Develop WebPages for business

## **CORE COURSE VI : COMPUTER APPLICATION II – DATA BASE MANAGEMENT SYSTEM**

### **COURSE OUTCOME**

CO 1: familiarize with the concepts of database management

CO 2: handle the database for business firms.

CO 3: develop knowledge in Access and SOL

## **CORE COURSE XI : COMPUTER APPLICATION III – INFORMATION TECHNOLOGY FOR BUSINESS**

### **COURSE OUTCOME**

CO 1: Understand the role of information technology in business

CO 2: acquire knowledge in E-Commerce and its application

CO 3: acquire knowledge in information systems and Enterprise Resource Planning  
CO 4: manage the office activities with the help of spreadsheet software

## **CORE COURSE XVI : COMPUTE APPLICATION IV – ACCOUNTING PACKAGES - TALLY**

### **COURSE OUTCOME**

CO 1: acquire knowledge in the accounting package  
Tally

CO 2: .understand the method of creating accounts and vouchers in tally.

CO 3: able to prepare financial statements by using Tally

CO 4: Help students develop skill in preparing financial statements in Tally. CO 5: perform treatment of GST and TDS by using Tally

## **M. Com**

### **Programme Outcome (PO) - Master of Commerce (M.Com)**

1. Develop theoretical and practical knowledge in accounting and finance as expected by the industry in the changing environment.
2. Provide students with an exposure to the practical business world through industry-institution exposure.
3. Nurture standards of professional excellence, integrity, honesty and fairness.
4. Groom students for professional occupations, entrepreneurship, and consultancy works according to the needs of the industry.

### **Programme Specific Outcome (PSO)- Master of Commerce (M.Com)**

1. Acquire and Apply knowledge in accounting principles and practices and its application in real business settings, and expertise in tools and techniques of statistics, information techniques, and numerical skills for decision making.
2. Develop the skills and abilities to become competent and competitive in the business world to take wise decisions at personal and professional level.
3. Appraise the impact of other disciplines on the working of business and build entrepreneurial spirit, entrepreneurial competencies and develop research attitude.

