**INDO-AMERICAN COLLEGE-CHEYYAR**

**DEPARTMENT OF BIOCHEMISTRY & BIOINFORMATICS**

## I. Programme Outcomes

**Programme Outcomes of the Department**

**PO1. Scientific Knowledge:** Apply the knowledge of Biology of cellular chemical reaction with the aid of simulation, animation and various computer software to acknowledge the problems of unsolved Mysteries in life.

**PO2. Problem Analysis**: Students will able to explain the synthesis of cellular macromolecules like DNA, RNA, Protein, Carbohydrates, Lipids and their catabolism and Anabolism in their metabolic Pathways and its Regulations.

**PO3.Development:** Students will able to use the current bimolecular techniques for preparation and execution of their experiments and generate hypothesis using statistics data's and presented in their Laboratory.

**PO4. Investigations of complex problems:** Using research base communication students will analyze primary literature and apply of analytical Techniques will improve their skill in publishing original Research articles in reputed journals.

**PO5.Modern Usage of technology:** Students will able to understand the genomics and proteomics of an Organism and their evolutionary relationship through modern tools and software.

**PO6.Environment and sustainability:** Students will able to demonstrate skill in all relevant literature Analysis, design of experiment based on current problems.

**PO7.Ethics:** Apply all ethics in maintaining good laboratory and manual for conducting practical.

**PO8.Team work:** Students work as team for organizing seminar, guest lectures, workshop and Symposium to their relevant topic and to balance with current scenario in the field of Biochemistry.

**PO9.Communication:** Good communication maintained between students and faculty during lecture Hours which make effective documentation and oral presentations.

**PO10.Society Impact:** Students will make a research thesis and interrupt that result of the thesis/research With audience their by interacting with society to make impact.

## II. Programme Specific Outcomes

**B.Sc Biochemistry**

**PSO1.** Able to Know the Basic of cellular Environment and their development

**PSO2.** Knowing the Basic of Chemistry inside a cell.

**PSO3.** Handling Analytical instruments to know how to find and quantify biochemical important Substance present in blood and cells.

**PSO4.**Knowing the Various system of human body include Immune, Blood, Circulatory, Urinary, Nerve and various metabolic cycles like TCA, HMP, and Urea etc.

**PSO5.**The Course will make the students able to get placement in all biotechnological centre and various laboratories

**M.Sc Biochemistry**

**PSO1.**Students to get acquired knowledge and skills to make a better career in research , Biotechnology related industries.

**PSO2.**Experimental ability to overcome the problems to solve chemical problems in the living System.

**PSO3.**Applying the advanced techniques in Molecular biology, Microbiology, Clinical Biochemistry, Biotechnology and tools in Bioinformatics.

**PSO4.**Able to facilitate diseases related to human and animals and describing the structural conformation of protein , DNA, RNA and lipids and their biochemical pathway regulation And metabolism of drugs.

**PSO5.**Getting depth knowledge in the field of Genetics, Proteome ,Neuronal ,Physiology , Endocrinology , Enzymologists , Immunology ,Molecular Biology, Analytical biochemistry, Industrial oriented Biotechnology, Diagnostic Biochemistry Cell and development etc.

**M.Sc Bioinformatics**

**PSO1.**Its a multidisciplinary subject which encompass Mathematics, Computer science, Physics, Chemistry and biological sciences.

**PSO2.**Students has the capability to prepare them for accountable careers in academic research in the field of pharmaceutical and biotechnology concerns.

**PSO3.**Able to develop problem solving skills to create new and sophisticated algorithms to apply in Industrial problem solving and in research.

**PSO4.**Allow students to get basic and advanced skills in biocomputing tools.

**PSO5.**Able to know and solve the mystery of life by knowing the 3D structure of macromolecules.

**M.Phil Biochemistry**

**PSO1.** Identify and analyze current disease oriented problem and gave a solution with less or no side effect with little or no cost to the society.

**PSO2.**Able to write a research journal and thesis of their original research.

**PSO3.** To understand the need of the society and gave a solution with the help of their research and Technology under ethics.

**INDO-AMERICAN COLLEGE-CHEYYAR**
**DEPARTMENT OF BIOCHEMISTRY**

**I. Programme Learning Outcomes**

| **Programme Learning Outcomes of the Department** | | |
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| **Course code** | **Course name** | **Learning outcome** |
| **(BBC11)** | **CELLBIOLOGY** | **LO1**. Students will understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles<br>**LO2**. Students will understand how these cellular components are used to generate and utilize energy in cells<br>**LO3**. Students will understand the cellular components underlying mitotic cell division.<br>**LO4**. Students will apply their knowledge of cell biology to selected examples of changes orlosses in cell function.<br>**LO5**.These can include responses to environmental or physiological changes, or alterations of cell function brought about by mutation |
| **(BACH15C)** | **CHEMISTRY** | LO 1. Students acquired the basic knowledge of inorganic, organic and physical chemistry.<br>LO2. Getting the knowledge of metallurgy and Refining method.<br>LO3. Able to identification of organic isomers, can understood organic reaction mechanism.<br>LO4. Students acquired knowledge of kinetics of reactions, and their application in industries. Got basic idea of RO system and semiconductors.<br>LO5.Understanding the nuclear chemistry and process of nuclear reactor. Get knowledge about petro chemicals. |
| **(BES10)** | **ENVIRONMENTAL STUDIES** | **LO1**.Master core concepts and methods from ecological and physical sciences and their application in environmental problem solving.<br>**LO2**.Master core concepts and methods from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions.<br>**LO3**.Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.<br>**LO4**.Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales.<br>**LO5**.Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes. |
| **(BBC21)** | **BIOMOLECULES** | **LO1**. Understand the organic chemical principles in life processes.<br>Understand the structure and function of important biological<br>**LO2** .molecules such as DNA, RNA and some enzymes.<br>**LO3**.Understand biological processes such as protein biosynthesis, DNA replication and RNA biosynthesis.<br>**LO4**.Understand the genetic code, molecular basis of mutation, PCR and nucleic acid sequencing.<br>**LO5**.Apply fundamental mechanistic chemistry to understand |

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| | | biological processes.<br>**LO6**.Apply fundamental synthetic chemistry to biological molecules |
| **(BACH25C)** | **CHEMISTRY II** | **LO 1**. Students acquired the basic knowledge of co ordination chemistry and applications.<br>**LO2**. Acquired knowledge about organic natural products.<br>**LO3**. Well known understood about electrochemistry and its applications.<br>**LO4**. Students got idea about industrial exposure and analytical techniques.<br>**LO5**.Understanding the pharmaceutical chemistry. |
| **(BGA20)** | **VALUE EDUCATION** | **LO1.** 1. Full development of student's personality in its physical, mental, emotional and spiritual aspects,<br>**LO2**. Inculcation of good manners and of responsible and cooperative citizenship.<br>**LO3**. Developing respect for the dignity of individual and society.<br>**LO4**. Inculcation of a spirit of patriotism and national integration.<br>**LO5**. Developing a democratic way of thinking and living.<br>**LO6**. Recognize the essential steps to become good leaders.<br>**LO7**. Emerge as responsible citizen with clear conviction to be a role-model in the society. |
| **(BSS20)** | **SOFT SKILLS** | **LO1.Teamwork** - learning to connect and work with others to achieve a set task<br>**LO2.Leadership** -assessing the requirements of a task, identifying the strengths within the team, utilizing the diverse skills of the group to achieve the set objective, awareness of risk/safety<br>**LO3.Communication** -demonstrating clear briefing and listening skills, not being afraid to ask for help and support when necessary<br>**LO4.Confidence and enthusiasm for learning** -developing self-motivation, raised aspirations and belief in one's own abilities, defining and committing to achieving one's goals<br>**LO5.Citizenship** - raising awareness of one's place and role within a community through volunteering and conservation opportunities<br>**LO6.Responsibility** -for one's self, learning self-reliance and independence |
| **(BPBC22)** | **PRACTICAL-I** | **LO1.** Biochemistry Majors will gain proficiency in basic laboratory techniques in both chemistry and biology, and be able to apply the scientific method to the processes of experimentation and hypothesis testing.<br>**LO2 .**Qualitative analysis is the determination of the chemical composition of a sample and atom, ion, functional group, or compound is present or absent in a sample.<br>**LO3 .**Quantitative analysis- refers to the determination of how much of a given component is present in a sample. The quantity may be expressed in terms of mass, concentration, or relative abundance of one or all components of a sample.<br>**LO4 .**Students in the Biochemistry Major will be able to apply and effectively communicate scientific reasoning and data analysis in both written and oral forums. |

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| | | **LO5 .**Students in the Biochemistry Major will understand and practice the ethics surrounding scientific research. |
| **(BPCH25C)** | **ALLIED CHEMISTRY PRACTICAL** | **LO 1.** Able to Perform chemistry laboratory with safety.<br>**LO 2.** Students can able to use graduated apparatus like burette,pipette etc.,<br>**LO 3**. Able to prepare standard solution, and find out the concentration and amount of unknown solution.<br>**LO 4.** Able to identification functional group, special elements of organic compounds.<br>**LO 5**.Understanding and observing the chemical reaction. |
| **BBC 31** | **BIOCHEMICAL TECHNIQUES I** | After completing this courses students have knowledge on<br>**LO 1.** Learn about the basic measurements used in laboratory<br>**LO 2.** Learn about the molarity, molality,normality and percentage solution preparations<br>**LO 3.** To learn about pH and pOH, buffers<br>**LO 4.** Students have efficient knowledge on principle instrumentation of glass electrode, oxygen electrode.<br>**LO 5.** To get a knowledge on centrifugation techniques and applcations |
| **BABC 32** | **MICROBIOLOGY I** | **LO 1.** To learn about the history of microbiology and some importatnt discoveries<br>**LO 2.** To get knowledge about anatomy of prokaryotes and eukaryotes and there functions<br>**LO 3.** To learn about the classification of living organisms and cell theory<br>**LO 4.** Learn about different types of strains and dyes used in microbiology<br>**LO 5.** To get knowledge on antibiotics and microbial resistance |
| **BSBC 33** | **COMPUTER APPLICATIONS** | **LO 1.** Learn about the fundamentals of computer<br>**LO 2.** To learn about difference between human and computer<br>**LO 3.**To learn about imporatnce of computer and there classifications<br>**LO 4.**To improve the knowledge on MS Word and MS excel<br>**LO 5.** To have knowledge on power point presentation and slide preparations |
| BNCM 37 | **ELEMENTS OF ACCOUNTS** | **LO 1.** To know about the accounting system<br>**LO 2.** To learn about the accounting and accountancy<br>**LO 3.** To learn about the different terms used in accounting system<br>**LO 4.** To understand accounting system in non profit organisation<br>**LO 5.** To know about how the accounting entries are posted in books |
| **BBC 41** | **BIOCHEMICAL TECHNIQUES II** | **LO 1.** Learn about the basic instrumentation used in clinical science<br>**LO 2.** Learn about the general principals of analytical instrumentaion<br>**LO 3.** To interpret data from biochemical |

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| | | techniques<br>**LO 4.** Students have efficient knowledge on scientific datas<br>**LO 5.** To improve scientific comunication and laboratory skill |
| **BABC 42** | **MICROBIOLOGY II** | **LO 1.** To learn basic microbiology principles<br>**LO 2.** To get knowledge about biofertilizer and their role in plants<br>**LO 3.** To know about the architecture of micro organism<br>**LO 4.** Learn about the pathogenesis and treatment of pathogenic diseases<br>**LO 5.** To get overall knowledge about microbiology |
| **BSBC 43** | **COMPUTER APPLICATIONS** | **LO 1.** Learn about the basic concept of computer such as hardware and software<br>**LO 2.** To learn about the applications of computer in industries and research<br>**LO 3.** To learn about HTML coding<br>**LO 4.** To improve the knowledge on multimedia designing<br>**LO 5.** Able to know the role of computer in biology<br>**LO 6.** knowledge on operating system such as MS Dos |
| **BNCM 47** | **ADVERDISEMENT AND SALESMANSHIP** | **LO 1.** To learn about different types of advertising<br>**LO 2.**To understand various media of advertising<br>**LO 3.** To learn about selling and salesmanship<br>**LO 4.** To learn about advertisement copy<br>**LO 5.** To learn about qualities of good sales promotions |
| **BPBC 45** | **BIOCHEMICAL PREPARATION CHROMATOGRAPHIC SEPARAION PREPARATION BUFFERS** | **LO 1.** To learn about principle and techniques of colorimeter<br>**LO 2.**To know about quantitative and qualitative analysis of biomolecules<br>**LO 3.** To have an knowledge on biochemical instrumentation and their applications<br>**LO 4.**To learn about isolation process<br>**LO 5.**Improve the practical and laboratory skill |
| **BBC 51** | **Enzymes and intermediary metabolism** | Completing course after learned students<br>LO 1: Learn about intermediary metabolism, transformation of the energy from nutrient for use as an energy source in biosynthetic pathways.<br>LO 2: To learn to Carbohydrates Metabolism, pathways and interpretation.<br>LO 3: Learned about Biosynthesis and degradation of triacyl glycerol, phospholipids and cholesterol.<br>LO 4: Students learned to Protein Metabolism and interpretation.<br>LO 5: To learn about Nucleic acid Metabolism and interpretation. |
| **BBC 52** | **Genetics and Molecular Biology** | Completing course after learned students<br>LO 1: To learned Mendelian genetics theory<br>LO 2: Learned about DNA replication of Prokaryotes and Eukaryotes<br>LO 3: Learn about DNA transcription<br>LO 4:To learn DNA translation<br>LO 5: Students learn prokaryotic gene regulation. |

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| **BBC 53** | **Human Physiology and Nutritional Biochemistry** | Completing course after learned students<br>LO 1: Students learn to respiratory of lungs and Circulatory Systems of blood<br>LO 2: To learn about digestive and excretory systems<br>LO 3: learned about from endocrine and nervous systems<br>LO 4: Learn about Nutrition and Dietary Systems<br>LO 5: Learn details of Nutritive and Calorific Value of Food. |
| **BEBC 54** | **Medical Laboratory Technology -I** | Completing course after learned students<br>LO 1: Briefly learned to Laboratory care and instrumentation care.<br>LO 2: Learn and details about Laboratory equipments of microscope and sterilization. Then about quality control.<br>LO 3: Learn about urine analysis and microscopic examination of the urine sedimentation.<br>LO 4: To learn stool Examination and microscopic examination of the stool specimen.<br>LO 5: learned from clinical hematology and clinical interpretation |
| **BSBC 55** | **Biostatistics -I** | Completing course after learned students<br>LO 1: To learn details of diagrammatic and graphical representation of statistical data.<br>LO 2: Learned clearly measure of central tendency, Characteristics of a good average, Mean, Median, Mode, Merits and demerits.<br>LO 3: Briefly learned standard deviation, variance.<br>LO 4: Detaily learn to probability, Factorial symbol, formula with example.<br>LO 5: Clearly about that correlation analysis and types of correlation. |
| **BBC 61** | **Clinical Biochemistry** | Completing course after learned students<br>LO 1: To learn about of diseases related to carbohydrate metabolism.<br>LO 2: Learned about diseases related to lipid and lipoproteins metabolism.<br>LO 3: briefly learn to Inborn errors of metabolism of Protein.<br>LO 4: Detaily learned from Organ function tests of Liver, kidney and gastric.<br>LO 5: Understanding of clinical enzymology in acute pancreatitis, liver damage, bone disorder, myocardial infarction and muscle wasting. |
| **BBC 62** | **Biotechnology** | Completing course after learned students<br>LO 1: students learned about enzymes for in vitro manipulation, plasmids and bacteriophage.<br>LO 2: To learn methods of gene transfer, Blotting techniques and PCR.<br>LO 3: Learn about plant tissue culture and regeneration of plants.<br>LO 4: To learned details about for Equipments and requirements for animal cell culture.<br>LO 5: Learn about clearly for transgenic plants, mice, sheep, fish, diagnostic and therapeutic applications of monoclonal antibodies. |

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| **BEBC 63** | **Medical Laboratory Technology -II** | Completing course after learned students<br>LO 1: Students learn about blood grouping and blood transfusion systems.<br>LO 2: Detaily learn to body fluid analysis of CSF, Semen, Sputum and pregnancy.<br>LO 3: Briefly understood that thyroid functions and disorders.<br>LO 4: To learn about life cycle of malarial parasites and diagnosis.<br>LO 5: Learned about from medical microbiology techniques. |
| **BEBC 64** | **Immunology** | Completing course after learned students<br>LO 1: Understanding of immune system including cells, organs and receptors.<br>LO 2: To learn structure and functions of different classes of immunoglobulins. Importance of humoral, cell-mediated and innate immune responses from pathogens.<br>LO 3: To understand mechanisms of different types of hypersensitivity and the importance of conventional vs. recombinant vaccines.<br>LO 4: To get importance of antigen-antibody interaction in disease and diagnosis.<br>LO 5: To understand the principles of tolerance, autoimmunity and protection of against pathogens. |
| **BSBC 65** | **Biostatistics –II** | Completing course after learned students<br>LO 1: Learn about types of theoretical distribution, characteristics and properties.<br>LO 2: students learned how to salve the types of regression analysis.<br>LO 3: To learn about deatily for hypothesis, F-test and its application.<br>LO 4: Students understand about Chi square test, t-test and its application.<br>LO 5: To understand clearly ANVOA analysis and one way, two way classification. |
| **BPBC 66** | **Practical – III** | Completing course after learned students<br>LO 1 : clinical values and diagnosis of serum normal and abnormal levels<br>LO 2 : Significance of Urea, Creatinine, Glucose levels<br>LO 3:Knows he activity of enzymes like Salivary amylase PH, Temp and Effect of substrate concentration<br>LO 4: Importance of SGOT and SGPT<br>LO 5:able to run of SDS, ARAGOSE and Immunoelectophresis |
| **BPBC 67** | **Practical - IV (MLT)** | Completing course after learned students<br>LO 1: Clearly understand to practice hematology techniques.<br>LO 2: Detaily learned blood grouping and Rh typing.<br>LO 3: Practiced clearly about serological tests VDRL, CRP, RA, HIV, HBsAg and Pregnancy.<br>LO 4: To practice Sterilization and disinfection, culture, gram staining, media preparation, antibiotic sensitivity testing.<br>LO 5: To learn about Urine and fecal analysis and then pathological conditions. |

## I.PROGRAMME OUTCOMES DEPARTMENT OF BUSINESS ADMINISTRATION

**Programme Outcomes of the Department**

**Program Outcomes**

- An Understanding of Business Functions
- Providing Global Perspectives
- Developing Critical and Analytical Thinking Abilities
- Interpersonal Skill Development
- Creating Social Sensitivity and Understanding CSR, Ethical and Sustainable Business Practices Demonstrate sensitivity to social, ethical and sustainability issues
- Developing Entrepreneurship Acumen

## Program Specific Outcomes of the Department

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| PSO 1 | : | Understand of the corporate world |
| PSO 2 | : | Analyse the theoretical knowledge with the practical aspects of Organizational setting and techniques or management. |
| PSO 3 | : | Determine conceptual and analytical abilities required for effective decision making. |
| PSO 4 | : | Understand the dynamic and complex working environment of Business. |
| PSO 5 | : | Understand the problems faced by the business sector in the Current scenario. |
| PSO 6 | : | Analyse the ups and downs of the stock market. |
| PSO 7 | : | Understand the rapid changes of financial services include banking and insurance sectors. |
| PSO 8 | : | Determine the various PEST (Political, Economic, and Social Technological) factors influence on changes of business environment. |
| PSO 9 | : | Understand the micro and macro marketing environment. |
| PSO 10 | : | Analyze the various financial statements and accounting concept including Balance sheet, trial balance, etc., |
| PSO 11 | : | Understand the international trade procedure and documentation. |
| PSO 12 | : | Analyse the various aspect of business research in the area of marketing, human resource and finance. |
| PSO 13 | : | Determine the functional areas of management such as Production, purchasing, marketing, sales, advertising, finance, human resource system. |
| PSO 14 | : | Understand the SERQUAL of the various service industries. PSO 15 |
| | : | Understand the Forms of business organization. |
| PSO 16 | : | Understand the factors influence the consumer buying behavior. |
| PSO 17 | : | Determine the stages of her product development process. |
| PSO 18 | : | Understand the types of business communication and business letters. |
| PSO 19 | : | Determine the organizational behavior and its conflict. |
| PSO 20 | : | Analyse the sampling techniques of collecting primary and secondary data. |
| PSO 21 | : | Understand the methods of collecting primary and secondary data. |
| PSO 22 | : | Analyse the tools and techniques of data. |
| PSO 23 | : | To understand the construction of scaling techniques. |
| PSO 24 | : | Determine the steps involved in design of questionnaire. |
| PSO 25 | : | Analyse and preparation of project report for the Functional areas of research. |

| SUBJECT CODE | COURSE NAME | LEARNING OBJECTIVES |
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| BBA 11 | Principles Of Management | • Students will get familiar with the basic concepts applied in contemporary management practice and<br>• Many of the concepts learnt will form the foundation for subsequent courses in strategy, operations and HRM in subsequent Semesters.<br>• Basic principles of management and organizational hierarchy and span of management. |
| BBA 12 | Business Mathematics And Statistics | |
| BABA13B | Principles Of Insurance | • To provide an understanding of the Indian Banking & Insurance Sector.<br>• To make the students comprehend, the latest offerings and the day to day operations in Banking & Insurance |
| BES10 | Environmental Studies | |
| BBA21 | Financial Accounting | • Show proficiency in basic accounting concepts, conventions and understanding of the accounting process.<br>• Understand the process and preparation of financial statements for Sole Proprietorship and Company and Departmental Business Organizations |
| BABA23B | Principles Of Banking System | • To provide an understanding of the Indian Banking & Insurance Sector.<br>• To make the students comprehend, the latest offerings and the day to day Operations in Banking & Insurance. |
| BBA31 | Production Management | • Gaining knowledge about managing production process.<br>• How to run operations effectively.<br>• Better understanding of modern production techniques.<br>• Better understanding of quality management |
| BBA32 | Management Accounting I | • Students should acquire the basic knowledge required for application of tools for decision making. |
| BBA33 | Strategic Management | • To provide students with the fundamentals of strategic management in a comprehensive fashion and<br>• Relate its concepts and techniques to the Indian as well as International Context. |
| BBA34 | Managerial Economics | • Students will learn How consumers make decision How firms analyze market demand<br>• How firms analyze their internal costs |

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| | | How firms interact in different market structures and make price, output Decision<br>• How different sectors interact in macro economy.<br>• How national income is calculated. Concept of the multiplier effect in an economy.<br>• Analysis of the money market.<br>• Role of fiscal and monetary policy in macro economy.<br>• Causes and impact of inflation and policies to control it. |
| BABA35B | Service Marketing | • To explain the differences between goods and services and the resulting challenges and opportunities for service businesses<br>• To introduce the expanded marketing mix for Services and the philosophy of Customer focus for services. |
| BSBA36 | Customer Relationship Management | • Have an in depth understanding of CRM & its Contribution to Business growth Design appropriate<br>• CRM programs relevant to varied business sector<br>• CRM concepts and effects in business. |
| BNCA35 | Introduction To Information Technology | • Students will be well versed with various computer fundamentals after<br>• Undergoing this curriculum and understand the power of the software Tools and applications in business. |
| BBA41 | Material Management | • Shall be able to improve due date performance through use of MRP techniques with the capacity constraints.<br>• Analysis the inventory situations of a company improvement.<br>• Practice a material planning through modern material management tools like ABC,VED analysis etc |
| BBA42 | Management Accounting Ii | • Describe the fundamental concepts of managerial accounting.<br>• Apply the financial perspective of accounting for cost. Identify problems associated with relying on financial accounting information for internal decision making.<br>• Organize cost information according to the decision-making needs of the organisation. |
| BBA43 | Business Environment | • This course gives you an opportunity to learn about global trends that influence our environment and the living conditions and how different management systems and approaches that are used around the world to manage the environment.<br>• It offers an introduction to social impact |

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| | | strategy and social entrepreneurship, including key concepts, an overview of the field, and tools to get started as a change-maker.<br>• It explores the idea of how to become a stakeholder entrepreneur and create a business that makes money and makes the world a better place.<br>• It prepares you to meet the requests and demands of current and future decision-makers and in this course,<br>• It enables you to use design thinking to uncover new and creative solutions in the social sector |
| BBA44 | Operations Research | • To make students understand the various tools and techniques like linear programming problem, transportation problems, assignment problem, game theory used in business decision making.<br>• Understandingof the practical applications of the subject.<br>• Development of analytical thought Process to help develop modeling. |
| BABA45A | Organizational Behaviour | • Satisfaction, emotions, moods, personality, values, perception, decision making,<br>• Motivational theories understand group behaviour in organisations, including communication, leadership, power, and politics conflict, and negotiations. |
| BSBA46 | Total Quality Management | • Explain the meaning of total quality management.<br>• Identify costs of quality. Describe the evolution of TQM.<br>• Identify key leaders in the field of quality and their contributions.<br>• Identify features of the TQM philosophy.<br>• Describe tools for identifying and solving quality problems.<br>• Describe quality awards and quality certifications. |

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| BBA51 | Marketing Management | • Have an in depth understanding of the marketing planning process<br>• Develop and implement integrated marketing strategies for products.<br>• Understanding of direct and digital marketing for achieving marketing objectives, strategy and execution.<br>• Overview of various direct and digital marketing tools for implementing digital strategy.<br>• The student will be able to identify media alternatives for different marketing messages. |
| BBA52 | Business Law | • Students will understand the basic provisions of Company and<br>• Industrial Law and there in after the completion of the course,<br>• Students will be able to Understand the legal system prevailing into practice<br>• To explore the concept of contract of sales act. |
| BBA53 | Cost Accounting | • To enable students to conceptualize various methods and techniques of cost accounting and its application<br>• To measure the cost per unit, cost centre and profit centre.<br>• To provide the various cost information to management for decision making process.<br>• To analysis different method of cost for different product and services. |
| BBA54 | Computer Applications In Business | • Gain familiarly with the concepts and terminology used in the development, implementation and operation of business.<br>• To know the computer applications uses and importance in the business operation.<br>• Explore various methods where information technology can be used to support existing businesses and strategies. |
| BEBA55A | Human Resources Management | • Through this course student will be able to explore various dimensions of Human Resource Management and will find new career opportunities in the same<br>• It will provide hands on experience to work on industry assignments and gain practical knowledge<br>• Case Study discussions will provide simulations to think as an HR strategist and design an appropriate solution |
| BSBA56 | E-Business | • E-Business infrastructure.<br>• Selling and marketing on the web. |

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| | | • Web server, hardware and software.<br>• Business-to-business strategies.<br>• Virtual communities, web portals.<br>• E-commerce software, payment systems, security and user experience. |
| BBA61 | Industrial Relations And Labour Law | • Students should able to elaborate the concept of industrial relations.<br>• To illustrate the role of trade union in the industrial disputes.<br>• To outline the important causes& impact of industrial disputes.<br>• To elaborate industrial dispute settlement procedures.<br>• To summaries the important provisions of factories act, workmen's compensation act. |
| BBA62 | Entrepreneurial Development | • The students will be able to design successful Business Plan in order to set up a venture in future.<br>• The students will become more capable in self- Employment.<br>• To develop the essential skill to become an entrepreneurship. |
| BEBA63A | Financial Management | • Students should be able to show analytical skills in short term and long term decision making.<br>• To explore the different source of long –term and short term fund.<br>• To select the project by using the different methods of capital budgeting. |
| BEBA64A | Marketing Research | • Students will be able to convert business problems into research problem and design research accordingly.<br>• Students will be able to identify correct statistical tools to solve problem in hand.<br>• Students will write short research report |
| BSBA65 | Creativity And Innovation Management | • Students should be able to imagine new possibilities.<br>• Through the applications of imaginative thought and activity.<br>• Creative thinking is both the capacity existing ideas images or expertise in original way and the experience of thinking, reacting.<br>• Working in an imaginative way by a divergent thinking and convergent thinking. |
| BPBA66 | Group Project | • To gain the practical exposure toward the industry.<br>• To get practical knowledge about management functions.<br>• To get clear exposure relating to human resource management. |

## DEPARMENT OF CHEMISTRY

### I. PROGRAMME OUTCOMES

| Programme Outcomes |
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| After successful completion of three year degree program in Chemistry student should be able to:<br><br>PO-1. B.Sc. Chemistry curriculum is so designed to provide the students a comprehensive understanding about the fundamentals of chemistry covering all the principles and perspectives<br>PO-2. Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry<br>PO-3. Employ critical thinking and the scientific knowledge to design, carryout, record and analyze the results of chemical reactions.<br>PO-4. Create an awareness of the impact of chemistry on the environment, society, and Development outside the scientific community.<br>PO-5. Find out the green route for chemical reaction for sustainable development.<br>PO-6. The branches of Chemistry such as Organic Chemistry, Inorganic Chemistry, Physical Chemistry and Analytical Chemistry expose the diversified aspects of chemistry where the students experience a broader outlook of the subject.<br>PO-7. Use modern techniques, decent equipments in laboratories.<br>PO-8. The practical exercises done in the laboratories impart the students the knowledge about various chemical reagents and reactions. Thereby, gain their skills of handling the corrosive, poisonous, explosive and carcinogenic chemicals making themselves employable in any kind of chemical industries.<br>PO-9. They are also trained about the adverse effects of the hazardous chemicals and the first aid treatment. |

## II. PROGRAMME SPECIFIC OUTCOMES

| Program | Programme Specific Outcomes |
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| **B.Sc., Chemistry** | A graduate student with a B.Sc., chemistry will have the ability to:<br><br>PSO-1: The students will understand the existence of matter in the universe as solids, liquids, and gases which are composed of molecules, atoms and sub atomic particles.<br>PSO-2: Students will learn to estimate inorganic salt mixtures and organic compounds both qualitatively and quantitatively using the classical methods of analysis in practical classes.<br>PSO-3: Students will grasp the mechanisms of different types of reactions both organic and inorganic and will try to predict the products of unknown reactions.<br>PSO-4: Students will learn to synthesize the chemical compounds by maneuvering the addition of reagents under optimum reaction conditions. |

**III. LEARNING OUTCOME – B.SC., CHEMISTRY**

| COURSE CODE | COURSE NAME | LEARNING OUTCOME |
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| U17 BCH11 | GENERAL CHEMISTRY-I | At the end of the course, students should be:<br>LO1. Understand about atomic structure, able to write electronic configuration and knowing periodic properties.<br>LO2. Able to calculate the bond-order, to MO diagram of molecules.<br>LO3. Acquired knowledge about basic concepts of organic chemistry, able to written the IUPAC name of organic compounds<br>LO4.students should be able to describe the characteristics of the three states of matters<br>LO5. Got knowledge about volumetric quantitative analysis |
| U17 BCH21 | GENERAL CHEMISTRY-II | At the end of the course, students should be:<br>LO1. Understand the groups of s and p block elements<br>LO2. Derive the reaction mechanism of hydrocarbons<br>LO3.Acquired knowledge about synthesis of organic compounds<br>LO4. Understand about quantum chemistry and thermo chemistry<br>LO5. Recognize the basic terms of thermo dynamics and able to predict the energy changes. |
| U17BCH31 | GENERAL CHEMISTRY-III | At the end of the course, students should be:<br>LO1. Understand the inorganic qualitative analysis and spot test reagents, types of solvents.<br>LO2. Able to understand the comparative study of Carbon, Nitrogen and Oxygen family elements.<br>LO3.Able to recognize mechanism for electrophilic substitution and aromaticity.<br>LO4. Able to recognize the mechanism for aliphatic nucleophilic substitution, elimination, aromatic nucleophilic substitution reaction.<br>LO5. Recognize the basic concept of second law of thermodynamics and entropy. |
| U17BCH41 | GENERAL CHEMISTRY-IV | At the end of the course, students should be:<br>LO1.Able to state the resemblances of elements within each main group in noble gases and clathrates.<br>LO2. The students will be able to explain the types of carboxylic acids and amines.<br>LO3. Students will be able to understand about alcohol, phenols and naphthols.<br>LO4. Recognize the basic concepts of thermodynamics.<br>LO5. Able to understand the physical significance of third law of thermodynamics and entropy. |
| U17 BPCH22 | PRACTICAL–I VOLUMETERIC ANALYSIS | At the end of the course, students should be:<br>LO1.Facilitate the learner to make solutions of various molar concentrations.<br>LO2. Able to learn the concept of mole: converting moles into gram; converting gram into moles.<br>LO3. Defining concentration; dilution of solutions; making different molar concentrations.<br>LO4. Acquired knowledge about volumetric quantitative |

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| | | analysis experimentally.<br>LO5. Able to calculate the amount of substances from acidimetry, dichromometry, iodometry, complexometry and precipitation titration. |
| U17 BES10 | ENVIRONMENTAL STUDIES | At the end of the course, students should be:<br>LO1. Able to understand the Green house effect, soil, water and air pollution, acid rain, etc.<br>LO2. Apply the knowledge to aware common people about environmental pollution.<br>LO3. Able to do more research on waste management, nuclear waste management, biodegradation of hazardous wastes etc.<br>LO4. Know how to protect the forest<br>LO5.Students got the awareness about social act and rules. |
| U17 BGA20 | VALUE EDUCATION | At the end of the course, students should be:<br>LO1. Got knowledge about value of education.<br>LO2. Have an idea about how to lead the family in society.<br>LO3.Able to personality development.<br>LO4.Understood about social awareness and consumer rights.<br>LO5.Students got idea about modern warfare and terrorism. |
| U17 BPCH 44 | CORE PRACTICAL - II | At the end of the course, students should be:<br>LO1. Able to analyze ions present in the inorganic mixture.<br>LO2. Able to carry out scientific semi micro qualitative analysis<br>LO3. Acquired knowledge about the inorganic chemical reactions.<br>LO4. Able to prepare inorganic compounds<br>LO5. Learned about handling of various chemicals and reagents. |
| U17 BSCH32 | WATER TREATMENT AND ANALYSIS | At the end of the course, students should be able to:<br>LO1. Students well known about water and its characteristics, hardwater, purification of hard water and students got knowledge about sterilization and disinfection of water.<br>LO2. Students got idea about water softening methods like clarks, lime soda, zeolite and deminerlisation; and determination of harness of water by titration method; how to calculate temporary and permanent hardness.<br>LO3.Students got exposure of industrial water treatment methods; desalination, electrolysis, reverse osmosis; effluent treatment of water from paper industry, petrochemicals, fertilizers and power station.<br>LO4. Acquire knowledge about water ananlysis and pollution of water from fertilizers, detergents and pesticides industries.<br>LO5. Got knowledge about analysis of chemical substance present in the water samples. |
| BSCH42 | FOOD CHEMISTRY | At the end of the course, students should be able:<br>LO1. Understand about cereals and its nutritive values; sugar and sugar related products and its advantages and disadvantages.<br>LO2. Students well known about vegetables, fruits classification, composition and its nutritive values.<br>LO3. Knowing the value of beverages types of beverages and its nutritive values.<br>LO4. Got idea about food preservation and its methods. |

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| | | LO5. Acquired knowledge about food additives, food packing and food coloring. |
| BNCS 34 | INTRODUCTION TO INFORMATION TECHNOLOGY-I | At the end of the course, students should be:<br>LO1. Enable to be proficient with information technology with a better knowledge of computer.<br>LO2.Have the knowledge of hardware devices of computer and software types.<br>LO3.To educates the student to have network concepts in computer with difficult transmission media.<br>LO4.Learn about internet basic concepts, web browser and different methods of connecting internet.<br>LO5.Aquire the knowledge of operating system and its importance in computer. |
| BNCS 44 | INTRODUCTION TO INFORMATION TECHNOLOGY-II | At the end of the course, students should be:<br>LO1. To equip students about the basis of internet usage and prepare them for digital.<br>LO2. Students have known about web browsers and using them for different purpose.<br>LO3.Have the output of knowing basic details of e-mail and usages for digital transformation of information.<br>LO4. Learn about the web page development language HTML and its different tags for creating web pages<br>LO5. To enable students about the electronic business activities |
| BCH51 | INORGANIC CHEMISTRY-I | At the end of the course, students should be:<br>LO1. Students get understood the properties of halogens and their compounds<br>LO2. Acquired knowledge about co-ordination compounds and their applications and able to named co-ordination compounds<br>LO3.Students well understood theories of co-ordinations compounds and able to calculate the stabilization energies.<br>LO4.Knowing the applications about co-ordination compounds in qualitative and quantitative analysis.<br>LO5. Get knowledge about solid state and applications. |
| BCH61 | INORGANIC CHEMISTRY-II | At the end of the course, students should be:<br>LO1. Acquired knowledge about nuclear chemistry and applications of radioisotopes.<br>LO2. Applying the knowledge of radioactivity in nuclear reactors and applications of nuclear reactions.<br>LO3.Understood about metallurgy process of metals from ores.<br>LO4. Learn about the inner transition elements.<br>LO5.Get knowledge about Organo metallic compounds and their applications. |
| BPCH66 | CORE PRACTICAL –III | At the end of the course, students should be:<br>LO1. Applying the knowledge of gravimetric quantitative estimations.<br>LO2. Get idea about estimation of sulphate as barium sulphate using silica crucible.<br>LO3. Able to estimate the amount of solute present in the precipitate.<br>LO4. Able to estimate the barium as barium chromate using sintered crucible with accuracy |

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| | | LO5. Able to carry out scientific experiments as well as accurately record and analyze the result. |
| BCH52 | ORGANIC CHEMISTRY-I | At the end of the course, students should be:<br>LO1. Understand to study carbohydrates will develop the skills to recognize and draw particular carbohydrate structures. To know general structural elements of cyclic monosaccharide and disaccharides and their implications for structure and function.<br>LO2. Recognize the types of isomerism.<br>LO3.The reactivity and stability of an organic molecules based on structure, including conformation and stereochemistry.<br>LO4.The prediction of organic reaction and mechanisms.<br>LO5. To develop novel, efficient, convenient, selective and environmentally benign synthetic methods in organic chemistry. |
| BCH62 | ORGANIC CHEMISTRY-II | At the end of the course, students should be:<br>LO1.Able to know about the mechanism involved in molecular rearrangements in organic reaction and some naming rearrangements.<br>LO2. Learn about Amino acids their types and properties, structure of pepties and their synthesis.<br>LO3.Understand about proteins and their classification, structure, types of nucleic acids and their constituents.<br>LO4. Learn about antibiotics and their therapeutic activity, Identification of alkaloids and terpenoids from plants and their structural elucidation and activity.<br>LO5. Able to understand about organo synthetic reagents and their preparation and synthetic application for large scale synthesis in industry. |
| BPCH67 | CORE PRACTICAL –IV ORGANIC QUALITATIVE ANALYSIS AND PREPARATIONS. | At the end of the course, students should be:<br>LO1.Identifiy the organic compounds with one functional group like aldehydes, ketones, ester, phenol, anilide and nitrocompounds.<br>LO2. Able to identify mono and dicarboxylic acids, reducing and non- reducing sugars, mono and diamides.<br>LO3. Demostrate some of the organic compounds by organic preparations.<br>LO4.Finally knows about how to handling the chemicals carefully.<br>LO5. Able to know laboratory practices and safety purposes. |
| U17 BCH53 | PHYSICAL CHEMISTRY –I | At the end of the course, students should be:<br>LO1.Able to understand the solutions liquid to liquids and Nernst law and its application.<br>LO2. Explain about phase rule terms and definitions; this may include able to draw phase diagram of one and two components system.<br>LO3.Understood about osmotic pressure, Vant hoff factor and chemical equilibrium.<br>L04.knowing the basic principles electrochemistry. Mention and explain various methods for the determination of |

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| | | transport number.<br>LO5. To understand application of conductometric titrations and concept of PH. |
| U17 BCH63 | PHYSICAL CHEMISTRY –II | At the end of the course, students should be:<br>LO1. Students able to understand cell reactions and emf.<br>LO2. Gain knowledge about fuel cells and storage cells.<br>LO3. Derive the integrated rate expressions for zero order ,first order ,second order and third order reaction. Understand theories of reaction kinetics and differentiate them.<br>L04. Gain the knowledge about adsorption properties and activity of catalyst.<br>LO5. Clearly understood about photochemistry and its applications. |
| U17 BPCH68 | CORE PRACTICAL –V PHYSICAL CHEMISTRY EXPERIMENTS | At the end of the course, students should be:<br>LO1. Explain the principle behind the experiments performed in the laboratory.<br>LO2. Plan and perform experiments and interpret experimental results.<br>LO3. Got idea about various heating reactions via phase rule.<br>LO4. Understand the kinetics with respect to time.<br>LO5.students understanding about electrolytes with related experiments. |
| BSCH54A | ANALYTICAL CHEMISTRY-I | At the end of the course, students should be:<br>LO1. Able to minimize the laboratory calculation error.<br>LO2. Got idea about purification compounds.<br>LO3. Got knowledge about gravimetric analysis.<br>LO4. Able to understand about basic principles and applications of UV spectroscopy.<br>LO5. Able to understand about basic principles and applications of IR spectroscopy. |
| BSCH64A | ANALYTICAL CHEMISTRY-II | At the end of the course, students should be:<br>LO1. Able to understand about basic principles and applications of chromatography.<br>LO2. Able to understand about basic principles and application of polarography.<br>LO3. Able to understand about basic principles and applications of NMR spectroscopy.<br>LO4. Able to understand about basic principles and applications of MASS and ESR spectroscopy.<br>LO5. Able to understand about basic principles and application of TGA and DTA. |
| BECH54A | PHARMACEUTICAL CHEMISTRY | At the end of the course, students should be:<br>LO1. Understand the basic pharmacological terms.<br>LO2. Able to diagnostic tests of diseases and disorder.<br>LO3 Got knowledge about anti microbial drugs.<br>LO4 Acquired knowledge about anesthetics and analgesics.<br>LO5. Got knowledge about hormones and its physiological function |
| BSCH56 | APPLIED CHEMISTRY | At the end of the course, students should be:<br>LO1.students can apply the knowledge in petro chemical |

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| | | industries.<br>LO2. Students get idea about paper manufacturing industries.<br>LO3. Acquired knowledge about sugar industries.<br>LO4. Understood about explosive compounds<br>LO5. Got knowledge about dairy industries and products. |
| BSCH65 | AGRICULTURAL AND LEATHER CHEMISTRY | At the end of the course, students should be:<br>LO1. Students acquired basic knowledge of properties of soil and soil fertility<br>LO2. Accumulated skill for scientific research work in agricultural field.<br>LO3. Students able to understand action of pesticides.<br>LO4. Students got exposure about leather technology.<br>LO5. Students acquired knowledge about process tanning effluents treatments |
| BACH15C | ALLIED CHEMISTRY-I | At the end of the course, students should be:<br>LO1. Able to Perform chemistry laboratory with safety<br>LO2. Can able to use graduated apparatus like burette, pipette etc.,<br>LO3. Able to prepare standard solution, and find out the concentration and amount of unknown solution<br>LO4. Able to identification functional group, special elements of organic compounds<br>LO5.Understanding and observing the chemical reactions |
| BACH25C | ALLIED CHEMISTRY-II | At the end of the course, students should be:<br>LO 1. Acquired the basic knowledge of co ordination chemistry and applications<br>LO2. Acquired knowledge about organic natural products.<br>LO3. Well known understood about electrochemistry and its applications.<br>LO4. Got idea about industrial exposure and analytical techniques.<br>LO5.Understanding the pharmaceutical chemistry. |
| BPCH25C | ALLIED CHEMISTRY PRACTICAL | At the end of the course, students should be:<br>LO1. Able to Perform chemistry laboratory with safety<br>LO2. Can able to use graduated apparatus like burette, pipette etc.,<br>LO3. Able to prepare standard solution, and find out the concentration and amount of unknown solution<br>LO4. Able to identification functional group, special elements of organic compounds<br>LO5.Understanding and observing the chemical reactions |

## Programme Outcomes of the Department

**PO – 1:** After completing three years for Bachelorof Commerce program, students would gain a thorough grounding in the fundamentals of Commerce, Finance and Accounts.

**PO – 2:** The knowledge of different specializations in Accounting, costing, banking and finance with the practical exposure helps the students to stand in organization and can independently start up their own Business.

**PO – 3:**The commerce and finance focused curriculum offers a number of specializations and practical exposures which would equip the student to face the modern-day challenges in commerce and business.

**PO – 4:**Capability of the students to make decisions at personal & professional level will increase after completion of this course.

**PO -5:** After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration and Accounting abilities of the Company.

**PO – 6:** Endow students with the holistic and contemporary knowledge of Business & Commerce through a fair mix of theory & practical courses.

**PO – 7:** To sensitize about the emerging challenges and issues across the Globe in Trade &Commerce.

**Master of Commerce**

**PO- 1:** To acquaint a student with conventional as well as contemporary areas in the discipline of Commerce.

**PO – 2**: To enable the students for conducting business, accounting and auditing practices, role of regulatory bodies in corporate and financial sectors nature of various financial instruments.

**PO-3:** To provide in-depth understanding of all core areas specifically Advanced Accounting, Advanced Financial Management, Advanced Cost Accounting, Global Marketing Operations, Investment Management, Research Methodology, GST and Direct Tax planning.

**Master of Philosophy**

**PO – 1:**Apply conceptual business knowledge to solve practical decision making problems,both individually and as a team using the techniques such as case analysis, projectsand assignments.

**PO – 2:**Learning the importance of professional and intellectual integrity, professional codeof conduct, ethics of research and scholarship and understanding the responsibilityto contribute to the community for the sustainable development of the society.

**PO – 3:**Create, select, learn and apply appropriate techniques, resources and modernmethodologies that suit the present scenario requirements of trade and commerce.

**PO– 4:**Demonstrate a critical awareness of current issues in commerce through leadingedged project and practice in the field.

**PO – 5:**Communicate with the society at large regarding commerce and its impact oneveryday life.

**PO – 6:**Learning the importance of financial decision making concepts like Capital budgeting, working capital management and analysis of Cost of capital, Capital structure,leverage, dividend policy.

**POS – 7:** Provide an extensive and in-depth knowledge on subject of specialization.

**Programme Specific Outcomes Bachelor of Commerce ( B.Com., )**

**POS – 1:** The students will acquire the knowledge, skill in different areas of communication, decision making, innovations and problem solving in day to day business activities.

**POS – 2:** Students will gain thorough systematic and subject skills within various disciplines of finance, auditing and taxation, accounting, management, communication and computer etc.,

**POS – 3:** Students will be able to do their higher education and can make research in the field of marketing, finance and human resource management.

**POS – 4:** Students can also get the practical skills to work as accountant, audit assistant, tax consultant, and computer operator. As well as other financial supporting services

**POS – 5:** Learners will be able to prove proficiency with the ability to engage in competitive exams like CA, CS, ICWA and other courses.

**POS – 6:** Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.

**POS – 7:** Learners will be able to recognize features and roles of businessmen, entrepreneur, managers, consultant, which will help learners to possess knowledge and other soft skills and to react aptly when confronted with critical decision making.

**Master of Commerce**

**POS – 1:**For pursuing research in their chosen areas.

**POS – 2:**For teaching in Colleges after qualifying requisite exams – NET and SET.

**POS – 3:**To inculcate the knowledge of business and the techniques of managing thebusiness with special focus on marketing, Insurance and banking.

**POS – 4:**To create awareness in application oriented research through research forbusiness decisions.

**POS – 5:**To enhance the horizon of knowledge in various field of commerce throughsales and advertising Management, Bank Management and Service Marketing.

**Master of Philosophy**

**POS – 1:**Undertake projects on social issues and the critical awareness of current issuesin commerce.

**POS – 2: P**repare research articles forpresentation/publication.

**POS – 3:**Optimize counseling and guidance skills both forthemselves and society.

**POS – 4:**Develop and enhance their leadership and teachingabilities.

**POS –5:**Capable to carry out Quality Research independently.

**POS – 6:** Able to understand subjects clearly and communicate effectively making them ideal choice for occupying academic positions.

**I. A- Learning Outcomes – B.Com.,**

| Course Code | Course Name | Learning Outcome |
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| U10- BCM11 | Financial Accounting - I | ***After completing this course, students will be able to:***<br>**LO1.**To enable the students to learn accounting principles, concepts of conventions and prepare the Bank Reconciliation Statement.<br>**LO2.** Understand the basic concepts of depreciation and Methods of Calculating and recording depreciation.<br>**LO3.** Understand the basic concepts of Bill of Exchange and Accounting treatment of trade bill.<br>**LO4.** The student will get thoroughknowledge on the accounting practice prevailing in adjustment in preparation of final accounts.<br>**LO5.** The student will get thorough knowledge on the single entry system and prepare accounts from incomplete records. |
| U10 – BCM12 | Business Organisation | ***After completing this course, students will be able to:***<br>**LO1.** To enable the students to learn meaning and types of business and Business ethics.<br>**LO2.**The student will get thorough knowledge on the Forms of Business organization.<br>**LO3**. To know Location of industry.<br>**LO4.** To knowledge about Stock exchange and Business Combination.<br>**LO5.** To understand of the chamber of commerce. |
| U10 – BCM13B | Consumer Protection and Consumer Rights | ***After completing this course, students will be able to:***<br>**LO1.** To get knowledge about objectives and salient features of Consumer Protection Rights Act 1986.<br>**LO2.** To know the consumer dispute and Restrictive Trade Practice.<br>**LO3.** Make out the various consumer rights.<br>**LO4.** To understand Consumer protection council.<br>**LO5.** To understand the redressal of consumer grievances. |
| U10 – BCM21 | Financial Accounting – II | ***After completing this course, students will be able to:***<br>**LO1.** To familiarize the concept of Branch account and accounting respect of branches.<br>**LO2.** To understand the Scope of departmental accounting and preparation of departmental Trading , Profit & Loss A/c and Balance sheet.<br>**LO3.** To knowledge about system of Hire Purchase & Installment purchase.<br>**LO4.** To enable the students to understand fundamentals and reconstitution of partnership account from admission to dissolution. |
| U10 – BCM22 | Elements of Insurance | ***After completing this course, students will be able to:***<br>**LO1.**To acquire knowledge of marine and non-marine insurance.<br>**LO2.**To Knowledge about the life assurance.<br>**LO3.** To understand Marine Insurance.<br>**LO4.** To know various types of marine policy.<br>**LO5.** To learn Law relating to fire insurance like re-insurance , renewals etc., |
| U10 – BCM23B | | ***After completing this course, students will be able to:*** |

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| | Merchant Banking | **LO1.**To acquire knowledge of Merchant Banking and lead merchant banker Appointment, Restrictions and Responsibilities.<br>**LO2.** To Knowledge about the public issue management.<br>**LO3.** To understand the post issue management and listing requirements of stock exchange and OTCEI.<br>**LO4.** To know various Capital market instruments.<br>**LO5.** To understand function of portfolio management. |
| U10 – BCM31 | Corporate Accounting – I | ***After completing this course, students will be able to:***<br>**LO1.**Understanding regarding issues of shares.<br>**LO2.**To Knowledge about the issue and redemption of debentures.<br>**LO3.** To understand the meaning of Acquisition of business and account treatment of profit prior incorporation.<br>**LO4.** To know the final accounts of companiesas per revised schedule VI.<br>**LO5.**To enable the students to understand about amalgamation , absorption and externalreconstruction. |
| U10 – BCM32 | Business Law | ***After completing this course, students will be able to:***<br>**LO1.** To develop knowledge on contract and various types of contract.<br>**LO2.** To help the students to understand the Performance of contract.<br>**LO3.**To understand the Indemnity and Guarantee, Bailment and Pledge and Law Relating to Lien and Finder of Lost Goods.<br>**LO4.**To understand the Contract of Agency, Termination of Agency and Irrevocable Agency.<br>**LO5.**To Knowledge about the Sale of Goods Act 1930. |
| U10 – BCM33 | Banking Theory, Law & Practice | ***After completing this course, students will be able to:***<br>**LO1.**To acquire the basic knowledge about the Banking Regulation Act, 1949.<br>**LO2.** To Knowledge about the Functions of Commercial banks and E-Banking, ATM Cards, Debit cards, Personal Identification Number, EFT, ECS etc.,<br>**LO3.** To understand various types of bank account.<br>**LO4.** To Knowledge about the Negotiable instruments.<br>**LO5.** To understand the Principles of Lending and Precautions to be taken by a banker while lending against LIC Policies, Shares, Gold, Silver Ornament and Jewellery. |
| U10 – BCM34 | Business Statistics – I | ***After completing this course, students will be able to:***<br>**LO1.**To familiarizes the concept of statistics and Collection of Data.<br>**LO2.**To provide practical exposure on calculation of Measures of Central tendency.<br>**LO3.**To provide practical exposure on calculation of measures of Dispersion.<br>**LO4.**To provide practical exposure on calculation of Measures of Skewness.<br>**LO5.**To Knowledge about the Statistical Quality Control. |
| U10 – BACM35 | Business Economics – I | ***After completing this course, students will be able to:***<br>**LO1.**To knows about the basics of business economics**LO2.**To Knowledge about the Demand analysis.<br>**LO3.** To understand the Utility analysis. |

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| | | **LO4.** To know about the Demand forecasting.<br>**LO5.** To learn the function of production and the law of variable proportions. |
| U10 – BSCM36 | E-Commerce & Its Applications | ***After completing this course, students will be able to:***<br>**LO1.** To understand the basics of E-Commerce and difference between E-Commerce & Traditional Commerce.<br>**LO2.** To understand the various business models of E-Commerce like B2B and B2C.<br>**LO3.** To know about the concept of E-Hub, B2G and E-filing.<br>**LO4.** To Awareness of internet and Internet explorer and create the E-Mail ID.<br>**LO5.** To understand the Web browsing. |
| U10 –BNCM37 | Elements of Accountancy | ***After completing this course, students will be able to:***<br>**LO1.** To understand the fundamentals of Accounting, Concept & Convention and Accounting Equation.<br>**LO2**. To record the Book keeping of journal, ledger and Trail balance.<br>**LO3.** To know about the basics of subsidiary book.<br>**LO4.**To solve the rectify the error in accounts.<br>**LO5.** To knowledge about the prepare final accounts with simple adjustments. |
| U10 – BCM41 | Corporate Accounting – II | ***After completing this course, students will be able to:***<br>**LO1.** To understand the methods of valuation of Goodwill and Shares.<br>**LO2.**Gain thorough knowledge on the accounting procedures followed during the liquidation of<br>Companies.<br>**LO3.**To make them aware about accounts of bank and insurance company.<br>**LO4.** To introduce and develop knowledge of holding companies accounts.<br>**LO5.** Enable the students to understand aboutInflation accounting (Accounting for price level changes). |
| U10 – BCM42 | Company Law | ***After completing this course, students will be able to:***<br>**LO1.** To gain knowledge about the Company, types of company and difference between private & public company.<br>**LO2.** To understand the various steps of formation of the company.<br>**LO3.** To know about the prospects.<br>**LO4.**To understands the members, liability and termination of the company.<br>**LO5.**To gain knowledge about the basics Director appointment, removal, powers, liabilities and methods of winding up company. |
| U10 – BCM43 | Business Communication | ***After completing this course, students will be able to:***<br>**LO1**. To enable the students to know basics of communication in business.<br>**LO2.** To gain knowledge about the Business Letters in Appearance, Structure and Layout.<br>**LO3**. To understand the various types of business letters.<br>**LO4.**To makes students to apply for various jobs.<br>**LO5.** To learn how to make a report in business. |
| U10 – BCM44 | | ***After completing this course, students will be able to:***<br>**LO1.** To provide practical exposure on calculation of |

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| | Business Statistics – II | Correlation.<br>**LO2.** To provide practical exposure on calculation of Regression Equation.<br>**LO3.** To provide practical exposure on calculation of Index Number.<br>**LO4.** To provide practical exposure on calculation of Time Series.<br>**LO5.** To Knowledge about the Probability. |
| U10 – BACM45 | Business Economics – II | ***After completing this course, students will be able to:***<br>**LO1.** To gain knowledge about the cost and revenue analysis.<br>**LO2.** To understand the market structure and pricing.<br>**LO3.** To gain knowledge about the distribution theories and theories of profits.<br>**LO4.** To enable the students to know basis of national income in India.<br>**LO5.** To understand the Fiscal Economics. |
| U10 – BSCM46 | Industrial Organization | ***After completing this course, students will be able to:***<br>**LO1.**To gain knowledge of the basic industrial organization and current scenario.<br>**LO2.** To understand the industrial ownership.<br>**LO3.** To understand the Physical facilities like plant location and plant layout.<br>**LO4**. To knowledge about the production management like product design and planning.<br>**LO5.** To learn the basic concept of material management. |
| U10 –BNCM47 | Advertising And Salesmanship | ***After completing this course, students will be able to:***<br>**LO1.**To gain knowledge of Origin and Development of Advertising.<br>**LO2.** To understand the Various media of Advertising.<br>**LO3.** To Know the Advertisement copy and Salesmanship and Psychology.<br>**LO4.** To learn the basic concepts of Salesmanship.<br>**LO5.** To knowledge about the Qualities of Good Salesman and sales promotion. |
| U10 – BCM51 | Cost Accounting – I | ***After completing this course, students will be able to:***<br>**LO1.**To know the concept, scope and classification of Cost Accounting.<br>**LO2.** To facilitate the idea and meaning of material control with levels of stock and EOQ.<br>**LO3.** Students can get knowledge of different methods in cost price like FIFO, LIFO etc.,<br>**LO4.** Have an opportunity to understand accounting of labor turnover and Remuneration and Inventive.<br>**LO5.** To introduce the concept of overhead cost. |
| U10 – BCM52 | Practical Auditing | ***After completing this course, students will be able to:***<br>**LO1.** To know the nature, scope, objectives and classification of audit.<br>**LO2.** To understand the Audit Programme, Audit Note Book and Audit Working Papers.<br>**LO3.** To gain knowledge about the concepts of Vouching and voucher.<br>**LO4.** To understand Verification and Valuation of assets and liabilities.<br>**LO5.** To know that Appointment, Removal, Remuneration, |

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| | | duties and Liability of Auditors. |
| U10 – BCM53 | Business Management | ***After completing this course, students will be able to:***<br>**LO1.** To understand the basic principles of management.<br>**LO2.** To better understanding of planning and decision making.<br>**LO3.** To know the characteristics, Importance and types of Organising.<br>**LO4.** To provide idea about directing, motivation, leadership and communication.<br>**LO5.**To understands the process and types of controlling. |
| U10 – BCM54 | Income Tax Law & Practice – I | ***After completing this course, students will be able to:***<br>**LO1.**Knowledge about the basic concepts in Income Tax Act 1961, Residential status and Tax free income.<br>**LO2.**Knowledge about the Income from salaries and Computing taxable salary.<br>**LO3.**To Learn the computing income from let out and self-occupied house property.<br>**LO4.**Description about the profit or gain of business and profession and computing income from business & profession and computing allowable depreciation.<br>**LO5.**Knowledge about the Income Tax authorities. |
| U10 – BECM55A | Entrepreneurial Development | ***After completing this course, students will be able to:***<br>**LO1.** To enable them to understand basic concepts of entrepreneur and role of entrepreneur in economic development.<br>**LO2.** To gain knowledge about the Project identification and how to prepare project report.<br>**LO3.** To understand various types of Organization and sources of project finance.<br>**LO4.**To know need & problems of incentives and subsidies, how to usage of development of backward area in incentives.<br>**LO5.** To encourage students to become entrepreneurs and specially Women entrepreneur and Rural entrepreneur. |
| U10 – BSCM56 | Principles of Marketing | ***After completing this course, students will be able to:***<br>**LO1.** To enable the students to understand the concept and importance of marketing.<br>**LO2.** To develop an idea about market segmentation and to enhance the students on consumer behavior.<br>**LO3.**To make them understand the various components of marketing mix and Product policy like Branding, packaging, labeling etc.<br>**LO4.** To gain knowledge about the Pricing policy, Channel of distribution and Promotion Mix.<br>**LO5.** To understand the Recent trends in Marketing like Social marketing, meta marketing, E-marketing, over marketing etc., |
| U10 – BCM61 | Cost Accounting – II | ***After completing this course, students will be able to:***<br>**LO1.** To understand the basic concepts and methods of costing like Job, Batch and Contracting.<br>**LO2.**To Understand the basic concepts of Process costing and to know prepare to process accounting.<br>**LO3.** To understand the operating costing like transport costing and how to prepare cost unit. |

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| | | **LO4.**To develop the know-how and concept of marginal costing with practical problems<br>**LO5.** To understand the Reconciliation of Cost and Financial Accounts. |
| U10 – BCM62 | Management Accounting | ***After completing this course, students will be able to:***<br>**LO1.** To enlighten the students thought and knowledge on management Accounting and proper idea on financial statement analysis in practical point of view.<br>**LO2.** To gain knowledge about the classification of Ratio analysis and Computation of Ratios from Financial Statements.<br>**LO3.** To understand Concepts of Fund flow and cash flow statement and how to preparation of fund flow and cash flow statement (AS3).<br>**LO4.** To develop the know-how and concept of Standard costing with practical problems.<br>**LO5.** To provide knowledge about budget control keeping in mind the scope of the concept with practical problems. |
| U10 – BCM63 | Income Tax Law & Practice – II | ***After completing this course, students will be able to:***<br>**LO1.** To enable the students to have a knowledge of capital assets, exemption and computing from Capital gains.<br>**LO2.** To enlighten the concept and Computing of income from other source.<br>**LO3.** To Enabling the students to have a fair idea on set-off and carry forward of losses and how to merge for clubbing income to Total income.<br>**LO4.** To understand Agricultural income and Permissible deductions from gross total income.<br>**LO5.**To Knowledge about the Computation of Tax liability on Assessment of Individuals and Assessment procedures. |
| U10 – BECM64A | Financial Management | ***After completing this course, students will be able to:***<br>**LO1.**To give the students understanding of the Nature, importance of Finance functions and various Sources of Raising Finance.<br>**LO2.** To enlighten the concept in goals of finance function and develop the decisions of cost of capital, dividend policy, capital structure etc.,<br>**LO3.** To gain knowledge about the Evaluation of Alternative Investment Proposals like NPV, ARR, IRR Methods.<br>**LO4.** To understand the Determinants of Working Capital and Credit and Collection Policies.<br>**LO5.**To helps to give proper idea on financial ratio analysis and leverage in practical point of view. |
| U10 – BECM65A | Human Resource Management | ***After completing this course, students will be able to***<br>**LO1.** To make the students to acquire knowledge about the nature and scope of HRM.<br>**LO2.** To introduce the students about placement and selection.<br>**LO3.** To facilitate the knowledge about the Techniques of Training methods and identification of training needs.<br>**LO4.** To gain knowledge about the motivation theory and different methods in performance appraisal.<br>**LO5.**To Enabling the students to have a fair idea on transfer, promotion and career development in future. |

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| U10 – BSCM66 | Computer Application in Business | ***After completing this course, students will be able to***<br>**LO1.** To make the students to acquire knowledge about the basics of computer.<br>**LO2.** To provide practical knowledge exposure to MS- Word.<br>**LO3.** To provide practical knowledge exposure MS-Excel.<br>**LO4.** To provide practical knowledge exposure MS- Power Point.<br>**LO5.** To gain knowledge about the Electronic Commerce and Electronic data interchange (EDI). |

**III B- Learning Outcomes –M.Com.,**

| Course Code | Course Name | Learning Outcome |
|---|---|---|
| P09- MCM11 | Advanced Financial Management | ***After completing this course, students will be able to***<br>**LO1.**To provide introduction to Functions and goals of Financial Management.<br>**LO2.** To develop an idea about the Management funds like long term and short term.<br>**LO3.** To create awareness about capital structure, leverage, dividend policy and theories of capital structure & dividend with practical problems.<br>**LO4.** To enable them to understand Evaluation of capital investment decision like payback period, ARR, NPV, IRR and CAPM with practical problems.<br>**LO5.** To provide knowledge about Working capital management and credit and collection policies with practical problems. |
| P09 – MCM12 | Accounting for Managerial Decisions | ***After completing this course, students will be able to***<br>**LO1.** To enlighten the students thought and knowledge on Scope and Importance of Accounting for Decision make with Financial and Cost Accounting.<br>**LO2.** To helps to give proper idea on financial and investment analysis like Ratio, leverage &Budgeting in practical point of view.<br>**LO3.**To familiarize fund flow and cash flow statement.<br>**LO4.** To develop the know-how and concept of absorption and marginal costing with practical problems.<br>**LO5.** To enlighten the students thought and knowledge on Financial decisions like Capital structure and dividend with simple practical problems. |
| P09 – MCM13 | Global Marketing | ***After completing this course, students will be able to***<br>**LO1.** To gain knowledge about the Global marketing and Environment.<br>**LO2.** Ability to understand the various International infrastructures for global trade promotion and Objectives, Strategies of global pricing.<br>**LO3.**Skill to evaluate the Segment of Global Customers.<br>**LO4.** Clarity about the Global Marketing Channels and Physical Distribution.<br>**LO5.**To gain Knowledge about the various Global Trade Procedure. |
| P09 – MCM14 | | ***After completing this course, students will be able to***<br><br>**LO1.**To familiarize the variables on Partial correlation and |

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| | Advanced Business Statistics | Multiple correlation-Multiple regression with practical problems view.<br>**LO2.**To analysis the various methods of theoretical probability distribution.<br>**LO3.** To know the advanced statistical tools for analysis of sampling, t-test and Z-test.<br>**LO4.** To study the advanced application oriented tests in Chi square distribution and Test of Homogeneity.<br>**LO5.** To familiarize the F distribution and Analysis of variance with practical problems. |
| P09 – MCM15B | Computer Applications in Business | ***After completing this course, students will be able to***<br>**LO1.** To make the students to acquire knowledge about thecomputer hardware.<br>**LO2.** To gain knowledge about the basic idea of LAN, WAN, E-mail, World Wide Web and Internet browsing<br>**LO3.** To provide practical knowledge exposure to MS- Word.<br>**LO4.** To provide practical knowledge exposure MS-Excel.<br>**LO5.** To provide practical knowledge exposure MS- Power Point. |
| P09 – MCM21 | Corporate Laws | ***After completing this course, students will be able to***<br>**LO1.** To gain Knowledge about the Corporate Laws like objectives, importance, indoor management and mergers & acquisition.<br>**LO2.**To enable the students to understand various Information Technology Act like Patents Act, FEMA Act and Competition Act etc.,<br>**LO3.** To make the students to acquire knowledge about the SEBI Act.<br>**LO4.**To gain Knowledge about the Environment Protection Act like Air & Water.<br>**LO5.**To Clarity about the basics of Consumer Protection Act. |
| P09- MCM22 | Human Resource Management | ***After completing this course, students will be able to***<br>**LO1.**To know the basic of Humans and other physical resources.<br>**LO2.**To Capability to understand employee recruitment and Selection.<br>**LO3.**To Knowledge regarding the developing the Rewards and incentives.<br>**LO4.** To enable the students to understand various Performance appraisal, Criteria for promotions and job enrichment.<br>**LO5.**To Knowledge regarding the developing the human development and organization change. |
| P09 – MCM23 | Advanced Accounts | ***After completing this course, students will be able to***<br>**LO1.** To enlighten the students the theoretical aspects of Accounts of Banking Companies and Prepare final Accounts.<br>**LO2.** To enlighten the students the theoretical aspects of Insurance Company Accounts and Preparation of Financial Statements.<br>**LO3.** To summarize the consolidated financial statement and balance sheet forholding companies.<br>**LO4.** To enlighten the students the theoretical aspects of Inflation accounting and preparing financial statements.<br>**LO5.** To gain knowledge about the basis of Human Resource |

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| P09- MCM24 | Quantitative Techniques for Business Decisions | ***After completing this course, students will be able to***<br>**LO1.**To provide practical exposure on calculation of Linear programming and net work analysis like PERT, CPM etc.,<br>**LO2.** To provide practical exposure on calculation of Inventory models.<br>**LO3.** To provide practical exposure on calculation of Transportation models<br>**LO4.** To provide practical exposure on calculation of Assignment models.<br>**LO5.** To gain knowledge about the theories and models Queuing. |
| P09- MCM25C | Bank Management | ***After completing this course, students will be able to***<br>**LO1.**To Knowledge about the Banking structure in India and capital adequacy.<br>**LO2.** To understand the project appraisal..<br>**LO3.** To make the students to acquire knowledge about theNon Performing Assets.<br>**LO4.** To gain Knowledge about the Investment management and Profit planning.<br>**LO5.** To understand the Traditional Banking vs. E-Banking and Security Measures of E-Banking. |
| P09 – MCM31 | General Service Tax (GST) | ***After completing this course, students will be able to***<br>**LO1.** To gain Knowledge about the how to draft and road ways of GST.<br>**LO2.** To understand about the taxable goods and services of Valuation, Input tax credit and Refund of GST.<br>**LO3.** To Know compliances, assessment, audit and inspection, interest, penalty and prosecution of GST.<br>**LO4.** To learn about the demand and appeals like CGST, SGST, IGST and dispute resolution mechanism of GST.<br>**LO5.**To make the students to acquire knowledge about the transitional provisions, recovery and liability to pay tax on GST. |
| P09 – MCM32 | Organizational Behavior | ***After completing this course, students will be able to***<br>**LO1.** To gain Knowledge about the Fundamental concepts of Organizational Behavior.<br>**LO2.** To make the students to acquire knowledge about the Various theories of motivation.<br>**LO3.** To understand the Group Dynamics and Decision making.<br>**LO4.** To gain Knowledge about the Leadership and Work Stress.<br>**LO5.** To know basis of Organizational Structure, effectiveness, culture and climate. |
| P09 – MCM33 | Advanced Cost Accounting | ***After completing this course, students will be able to***<br>**LO1.** To gain knowledge about the students with various concepts, methods of costing and Preparation of Cost sheet, tender of quotations.<br>**LO2.** To know about various Methods of Costing and Preparation of Process & contract account.<br>**LO3.** To understand the Standard Costing and Variance analysis with Practical problems.<br>**LO4.** To gain knowledge about the Cost control and Cost Reduction. |

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| | | **LO5.** To gain knowledge about the costing concepts like ABC & JIT. |
| P09 – MCM34 | Research Methodology | ***After completing this course, students will be able to***<br>**LO1.** To gain knowledge about the definition, characteristics, nature and scope of research.<br>**LO2.** To understand the sampling and Data collection of research.<br>**LO3.** To learn about the Processing, Analysis of data and how to write Interpretation of results.<br>**LO4.** To know the Statistical Applications like Factor Analysis with Practical problems.<br>**LO5.** To familiarize report writing. |
| P09 – MCM35C | Services Marketing | ***After completing this course, students will be able to***<br>**LO1.** To gain knowledge about the Nature and Concept of Service and Essential Elements of marketing mix in Service marketing.<br>**LO2.** To understand the Marketing strategies for service firms with special reference to information.<br>**LO3.** To know the Product support services and innovation in services.<br>**LO4.** To understand the Growth of financial services in India.<br>**LO5.** To learn about the CRM and Customer Satisfaction |
| P09 – MCM41 | Direct Taxes | ***After completing this course, students will be able to***<br>**LO1.**To gain Knowledge about the basic concepts in Income Tax Act 1961, Residential status, Agricultural income and Exempted income.<br>**LO2.**To Knowledge about the Income from salaries, HP, Business or Profession and Computing taxable income.<br>**LO3.**To Learn the computing income from Capital gain, other sources and Deduction from GTI.<br>**LO4.**To learn the after adjusting Setoff & Carry forwarded find out Taxable income from individual and Rate of Tax.<br>**LO5.**To gain Knowledge about the Income Tax authorities& Assessment Procedures. |
| P09 – MCM42 | Investment Management | ***After completing this course, students will be able to***<br>**LO1.** To gain knowledge about the basics of investments, Gambling and Speculation.<br>**LO2.** To understand the Nature and Scope of Security Analysis and Measurement of Risk.<br>**LO3.** To learn various analysis of Economic, Industry and company.<br>**LO4.** To clarity of Valuation of Securities like Shares, Debentures and bonds.<br>**LO5.** To understand the various theories in Random Walk, Markowitz and Dow. |
| P09 – MCM43 | Project Development | ***After completing this course, students will be able to***<br>**LO1.** To gain knowledge about the overview of Project Development Cycle and Capital Expenditure Decisions.<br>**LO2.** To understand various Project appraisal like Market, Technical, financial and economic.<br>**LO3.** To learn Project cost and means of finance.<br>**LO4.** To know project selection.<br>**LO5.** To understand project control. |

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| P09 – MCM44 | Marketing Research | **LO1.**To impart knowledge to the students about the nature, scope, importance of marketing research and Research proposal.<br>**LO2.** To understand Research design like Exploratory, Descriptive and survey.<br>**LO3.** To gain knowledge about the data collection and Management Information System.<br>**LO4.** To know Ethics in marketing research and International code of marketing research practice.<br>**LO5.** To gain knowledge about the Application of marketing research and Future of Marketing Research in India. |
| P09 – MCM46C | Sales and Advertising Management | **LO1.** To gain knowledge about the sales management.<br>**LO2.** To understand Recruitment, Selection of sale force and Qualities of a Good salesman.<br>**LO3.** To gain knowledge about the scope, need, functions and Ethical Issues in Advertising.<br>**LO4.** To understand various advertising media and Evaluation and Effectiveness of Advertising.<br>**LO5.** To learn Advertising budget, agencies and Types of Legal framework of advertising. |

**III C- Learning Outcomes –M.Phil - COMMERCE.,**

| Course Code | Course Name | Learning Outcome |
|---|---|---|
| MMRM11C | Research Methodology | ***After completing this course, students will be able to***<br>**LO1.** To Understand the basis of Research Methodology and components of research design.<br>**LO2.** To gain knowledge about the basis of hypothesis and various methods and techniques of sampling.<br>**LO3.** To understand the data collection and Draft questionnaires.<br>**LO4.** To learn various data analysis and write interpretation.<br>**LO5.**To Understand the Draft report writing.. |
| MMCO12 | Advanced Financial Management | ***After completing this course, students will be able to:***<br>**LO1.**To gain knowledge about the students of the Nature, importance of Finance functions and various Sources of Raising Finance.<br>**LO2.** To enlighten the concept in goals of finance function and develop the decisions of cost of capital, dividend policy, capital structure etc.,<br>**LO3.** To gain knowledge about the Evaluation of Alternative Investment Proposals like NPV, ARR, IRR Methods.<br>**LO4.** To understand the various security analysis.<br>**LO5.**To helps to give proper idea on portfolio analysis and selection. |
| MMCO13 | Guide Paper (Elective Paper) | ***After completing this course, students will be able to:***<br>**LO1.** To know Select Commerce related topics like HRM, Marketing and Finance.<br>**LO2.** To learn Select broad area for research.<br>**LO3.** To learn Current issue of HRM, Marketing and Finance.<br>**LO4.**To help to give proper idea on draft question paper, data collection etc,<br>**LO5.** To learn write the interpretation and data analysis. |

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| MMCO14 | Dissertation( Topic selected shouldbe relevant to the topic of the Guide Paper (Elective Paper) | ***After completing this course, students will be able to***<br>**LO1.** To Select research problem.<br>**LO2.** Do review and pilot study<br>**LO3.** To Formulate research design.<br>**LO4.**To Analysis and interpret data using statistical tools.<br>**LO5.** To Draft final report. |

## DEPARTMENT OF COMPUTER APPLICATIONS

### Programme Outcomes of the Department

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**PO1.** Apply the knowledge of mathematics and computing fundamentals to various real life applications for any given requirement

**PO2.** Design and develop applications to analyze and solve all computer science related Problems.

**PO3.** Design applications for any desired needs with appropriate considerations for any specific need on societal and environmental aspects

**PO4.** Analyze and review literatures to invoke the research skills to design, interpret and make inferences from the resulting data

**PO5.** Integrate and apply efficiently the contemporary IT tools to all computer Applications

**PO6.** Solve and work with a professional context pertaining to ethics, social, cultural and cyber regulations

**PO7.** Involve in perennial learning for a continued career development and progress as a computer professional

**PO7.** Function effectively both as a team leader and team member on multi disciplinary projects to demonstrate computing and management skills

**PO8.** Communicate effectively and present technical information in oral and written Reports

**PO9.** Utilize the computing knowledge efficiently in projects with concern for societal, environmental, and cultural aspects

**PO10.** Function competently as an individual and as a leader in multidisciplinary projects

**PO11.** Create and design innovative methodologies to solve complex problems for the betterment of the society

**PO12.** Apply the inherent skills with absolute focus to function as an successful entrepreneur

## Program Specific Outcome - "BCA"

.**PSO1:** Focuses on preparing student for roles pertaining to computer applications and IT industry

**PSO2:** Start from the basics and in every semester learns each and everything about computers.

**PSO3:** Develop programming skills, networking skills, learn applications, packages, programming languages and modern techniques of IT

**PSO4:** Get skill and info not only about computer and information technology but also in common, organization and management

**PSO5:** Learn programming language such as Java, C, C++, HTML, SQL, etc…

**PSO6:** Information about various computer applications and latest development in IT and communication system is also provided

**PSO7:** Gives overview of the topics in IT like networking, computer graphics, web development, trouble shooting, and hardware and software skills.

**PSO8:** Bachelor in computer applications (BCA) gives a number of opportunities to individuals to go ahead and shine in their lives.

**PSO9:** A few of them being like software programmer, system and network administrator, web designer faculty for computer science and computer applications

## Program Specific Outcome - M.Sc Information Technology

PSO1. At the end of the programme, the student should be able to Understand the concepts and applications in the field of Information Technology like Web designing and development, Mobile application development, and Network and communication technologies.

PSO2. Apply the learning from the courses and develop applications for real world problems.

PSO3. Understand the technological developments in the usage of modern design and development tools to analyze and design for a variety of applications.

PSO4. Communicate in both oral and written forms, demonstrating the practice of professional ethics and the concerns for social welfare.

PSO5. Competent and complete software professional to meet the requirement of corporate world and Industry standard to provide solutions to industry, society and business.

PSO6. Analyst who can apply latest technologies who can analyze and synthesize computing systems through quantitative and qualitative techniques to solve problems in the areas of Information Technology.

PSO7. A thorough and practical expert in the use of state of the art techniques for developing Software based systems.

PSO8. Be acquainted with the contemporary issues, latest trends in technological development and thereby innovate new ideas and solutions to existing problems.

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| BCA 11 | Digital Logic and Programming in C | LO1. To provide basic knowledge on Digital Electronics to understand the working<br>principles of Digital Computer.<br>LO2. To understand and examine the structure of various number systems and its<br>application in digital design.<br>LO3. The ability to understand, analyze and design various combinational and sequential circuits.<br>LO4. To develop programming skill using C language.<br>LO5. To make them to understand C Basics, Control Structures, Arrays, Functions, Structures,<br>Pointers and Files. |
| BAMA 15B | Mathematical Foundations I (Allied) | LO1. To know about Logical operators, validity of arguments, set theory and set operations,<br>relations and functions, Binary operations, Binary Algebra, Permutations & Combinations,<br>Differentiation, Straight lines, pair of straight lines, Circles, Parbola, Ellipse, Hyperbola. |
| BPCA 13 | Practical I – Programming in C Lab | LO1. To develop Programming Skill by implementing various basic computer algorithms and<br>real time problems.<br>LO2. To learn the syntax and semantics of the C programming language. |
| BGA 20 | Value Education | LO1. To include the essential values depending upon the objectives, they may be individual, social<br>and national values.<br>LO2. The following values to be inculcated among the student through education.They are namely sensitivity, punctuality, neatness, scientific attitude, dignity of labour, sportsmanship, equality, brotherhood, patriotism, secularism, cooperation, tolerance, respect for elder, non-violence, national integrity, universal brotherhood. |
| BSS 20 | Soft Skill | LO1.To give each student a realistic perspective of work and work expectations,<br>LO2.To help formulate problem solving skills,<br>LO3.To guide students in making appropriate and responsible decisions,<br>LO4.To create a desire to fulfill individual goals, and to educate students about unproductive<br>thinking, self-defeating emotional impulses, and self- defeating behaviors. |
| BCA 21 | C++ and Data Structure | LO1. To develop Object Oriented Programming skills using C++ and to introduce Data Structure<br>Concepts.<br>LO2. To learn the syntax and semantics of the C++ programming language. |
| BAMA 25B | Mathematical Foundation II (Allied) | LO1. To know about Logical operators, validity of arguments, set theory and set operations,<br>relations and functions, Binary operations, Binary Algebra, Permutations & Combinations,<br>Differentiation, Straight lines, pair of straight lines, Circles, |

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| | | Parbola, Ellipse, Hyperbola. |
| BPCA 23 | Practical II – C++ and Data Structures Lab | LO1. To implement Object Oriented Concepts in C++.<br>LO2. To implement Data Structure Concepts in C++. |
| BCA 31 | Java Programming | LO1. To improve Object Oriented Programming gathered through an independent platform.<br>LO2. Ability to know Inheritance,Packages and Interfaces.<br>LO3. Understand the String Handling, Error Handling and Multithreading concepts.<br>LO4. Learned about Applets and GUI Components.<br>LO5. Enable to Connect Java with Databases using JDBC Connectivity. |
| BCA 32 | E-Commerce | LO1. To understand the basic concepts and technologies used in the field of management information systems.<br>LO2. Be aware of the ethical, social and security issues of information systems. |
| BCA 33 | Resource Management Techniques | LO1. To improve the skills of solving very common problems which we come across in various<br>fields like transportation and industries with machines.<br>LO2. To develop computational skill and logical thinking in formulating industry oriented problems<br>as a mathematical problem and finding solutions. |
| BACM 15C | Financial Accounting I (Allied) | LO1. To gain knowledge of accounting in general and to understand the system<br>of Financial Accounting. |
| BSCA 34 | Design and Analysis of Algorithms (SBS I) | LO1. To build a solid foundation of the most important fundamental subject in computer<br>science. Creative thinking is essential to algorithm design and mathematical acumen and<br>programming skills. |
| BNCA 35 | Introduction to Information Technology<br>(NME I) | LO1. To enable the student to be proficient with Information Technology with a better<br>knowledge of Computer. |
| BPCA 36 | Practical III – Java Programming Lab | LO1. To make the students to understand practically various concepts learned in Java Programming. |
| BCA 41 | Database Management Systems | LO1. Appreciate the need for Database and understand the ER Model<br>LO2. Understand different Relational Algebra Operations and Relational Calculus.<br>LO3. Learn the Functional Dependency and Different Normal Forms to normalize a Relation.<br>LO4. Learn SQL and write SQL queries for different problems.<br>LO5. Understand different PL/SQL concepts. |

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| BCA 42 | Enterprise Resource Planning | LO1. To provide a contemporary and forward-looking on the theory and practice of Enterprise Resource Planning Technology.<br>LO2. To focus on a strong emphasis upon practice of theory in Applications and Practicaloriented approach.<br>LO3. To train the students to develop the basic understanding of how ERP enriches the business organizations in achieving a multidimensional growth.<br>LO4. To aim at preparing the students technological competitive and make them ready to self-upgrade with the higher technical skills. |
| BCA 43 | Decision Support System | LO1. Enable to Learn decision making process with the help of computers.<br>LO2. Have the basic concepts of decision support systems and its construction.<br>LO3. Able to know about group work and group decision support systems.<br>LO4. Understand the expert systems and extraction of knowledge for execution.<br>LO5. Learn Neural Computation, Genetic Algorithms and implementation of MSS. |
| BACM 25C | Financial Accounting II (Allied) | LO1. To gain a knowledge of accounting in general and to understand the system of financial accounting. |
| BSCA 44 | Computer Organisation and Architecture (SBS II) | LO1. To enable the student to have a better understanding of architecture of computer and prepare the student for higher level of programming. |
| BNCA 45 | Internet and its Applications (NME II) | LO1. To equip students to basics of Internet usage and prepare them for digital world. |
| BPCA 46 | Practical IV – RDBMS Lab | LO1. To make the students to understand practically various concepts learned in DBMS. |
| BCA 51 | Mobile Application Development | LO1. Enable to learn in detail about Mobile Application and Development and Android Programming.<br>LO2. Create Android Project from XML Layout.<br>LO3. Able to debug android apps and create UI fragments.<br>LO4. Design apps with audio play back.<br>LO5. Create database and communicate with mobile |
| BCA 52 | Operating System | LO1. To enable the student to get sufficient knowledge on various system resources. |
| BCA 53 | Data Communication and Network | LO1. To equip students to basics of Data Communication and prepare them for better computer networking. |
| BECA 54A | Data Mining (Elective I) | LO1.Enable the student to get sufficient knowledge on mining the data.<br>LO2.Understand Data Warehouse architecture and OLAP operation.<br>LO3.Understand the Data preprocessing methods and characterization of Data Mining.<br>LO4.Able to Learn the classifications of data and analyze the data. |

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| BECA 54B | Computer Graphics (Elective I) | LO1. To equip students to basics of computer drawing and prepare them for computer modeling of objects. |
| BECA 54C | Information Security (Elective I) | LO1. To enable the student to understand various methodology available for securing information. |
| BSCA 55 | Software Engineering (SBS III) | LO1. This course introduces the concepts and methods for the construction of large software intensive systems. |
| BPCA 56 | Practical V – Mobile Applications Development Lab | LO1. To make the students to understand practically various concepts learned in Mobile Applications Development. |
| BPCA 57 | Practical VI – Operating System Lab | LO1. To make the students to understand practically various concepts learned in OS. |
| BCA 61 | Cloud Computing | LO1. Enable to learn the basic functions, principles and concepts of cloud.<br>LO2. Analyze the need, value,cost and merits of cloud for the given problem.<br>LO3. Understand and apply cloud architecture and services<br>LO4. Apply Load balancing and virtualization techniques. |
| BCA 62 | Open Source Programming | LO1. Enable to learn and practice about HTML5, JavaScript, PHP,CSS and Linux.<br>LO2. Able to write create interactive web pages using CSS and Javascript.<br>LO3. Learn and design Client side validation using Scripting Languages.<br>LO4. Able to Learn Linux OS and its importance,Library functions,Shell scripts and System calls.<br>LO5. Learn Server side scripts, file upload and database Connection using PHP. |
| BECA 63A | Software Testing (Elective II) | LO1. Make the student more proficient with error free software development.<br>LO2. Understand the importance of software quality/software testing and apply techiques.<br>LO3. Generate test cases from software requirements using various test processes for continous quality improvement.<br>LO4. Understand flow graph and apply path testing.<br>LO5. Identify the input and deliverable of the testing process and work together as team in preparing a report. |
| BECA 63B | Mobile Computing (Elective II) | LO1. To impart good knowledge of wireless communication to students. |
| BECA 63C | Microprocessors and its applications (Elective II) | LO1. To learn the architecture, programming, interfacing and rudiments of system design of microprocessors. |
| BECA 64A | Internet of Things (Elective III) | LO1. To prepare the student for better application of internet technology. |
| BECA 64B | System Software (Elective III) | LO1. To make the student to become more proficient with system programming. |
| BECA 64C | Multimedia Systems (Elective III) | LO1. Understand the concept of Multimedia Systems, Text,Audio and Video tools.<br>LO2. Learn MIDI image and video image, Sychronization accuracy specification factors.<br>LO3. Able to create Animation with special effects using algorithm. |

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| | | LO4. Compressing audio and video using MPEG 1 and MPEG 2. |
| BSCA 65 | ASP .NET (SBS IV) | LO1. Students to become well aware of .NET technology.<br>LO2. Able to design web applications using ASP.NET.<br>LO3. Able to use ASP.NET controls in web applications.<br>LO4. Able to debug and display ASP.NET applications.<br>LO5. Able to create database driven ASP.NET web applications. |
| BPCA 66 | Practical VII – ASP .NET Lab | LO1. Students to become well aware of .NET Technology. |
| BPCA 67 | Practical VIII – Open Source Programming Lab | LO1. To make the students to understand practically various concepts learned in Open Source Programming |

## Department of Computer Science

### Programme Outcomes of the Department

**PO1. Scientific knowledge:** Apply the knowledge of mathematics, science, and manipulating to the solution of complex scientific problems.
**PO2. Problem analysis:** Identify, formulate, research literature, and evaluate complex scientific problems getting conclusions using principles of mathematics, sciences, and applied sciences.
**PO3. Design/development of solutions:** Design solutions for complex problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
**PO4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
**PO5. Modern tools usage:** Create, select, and apply appropriate techniques, resources, and modern computing and IT tools including prediction and modeling to complex scientific activities with an understanding of the limitations.
**PO6. The software engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional practice.
**PO7. Environment and sustainability:** Understand the impact of the professional software engineering Solutions in society and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
**PO8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the scientific practice.
**PO9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
**PO10. Communication:** Communicate effectively on complex activities with the scientific community And with the society at large, such as, being able to comprehend and write effective reports and design Documentation, makes effective presentations, and give and receive clear instructions
**PO11. Project management:** Demonstrate knowledge understanding of the scientific and management Principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**II. Programme Specific Outcomes**

| Programme | Programme Specific Outcomes |
|---|---|
| **B.SC., COMPUTER SCIENCE** | A graduate with a B.Sc. in Computer Science will have the ability to<br>**PSO1**. Express mastery of Computer Science in the following core knowledge areas<br>* Data Structures and Programming Languages<br>* Databases, Software Engineering and Development<br>* Computer Hardware and Architecture<br>**PSO2.** Apply problem-solving skills and the knowledge of computer science to solve real world problems<br>**PSO3**. Develop technical project reports and present them orally among the Users |
| **M.Sc., Computer Science** | A graduate with a M.Sc. in Computer Science will have the ability to<br>**PSO1.** Communicate computer science concepts, designs, and solutions effectively and professionally<br>**PSO2.** Apply knowledge of computing to produce effective designs and solutions for specific problems<br>**PSO3.** Use software development tools, software systems, and modern computing platforms |
| **M.Phil., Computer Science** | A graduate with a M.Phil. in Computer Science will have the ability to<br>**PSO1.** Identify, analyze, and synthesize scholarly literature relating to the field of computer science<br>**PSO2.** Write about and orally communicate technical material about computer science and computer systems<br>**PSO3.** Understand how technological advances impact society and the social, legal, ethical and cultural result of computer technology and their usage. |

## III Learning Outcomes – BSc Computer Science

| Course Code | Course Name | Learning Outcome |
|---|---|---|
| U18 | Digital Logic & Programming in C | After completing this course, students will be able to:<br>**LO1**. Provide Basic Knowledge on Digital Electronics.<br>**LO2.** Understand the working Principles of Digital Computer<br>**LO3.** Understand the Basic structures, operators and statements of C language.<br>**LO4.** Manipulate values of Variables, arrays, pointers, structures, unions and files.<br>**LO5.** Create the function that can receive variables, arrays, pointers and structures.<br>**LO6.** Create open, read, manipulate, write and close files. |
| U18 | Programming in C lab | After completing this course, students will be able to:<br>**LO1.** Learn about sin and cos series program.<br>**LO2.** Understand to run the program string concepts and built-in function.<br>**LO3.** Understand how to run a program of matrix and linear search concept.<br>**LO4.** Learn about array concept programs.<br>**LO5.** Learn to function ,structures and file program. |
| U18 | Environmental Studies | After completing this course, students will be able to:<br>**LO1.** Learn the concept of environment science.<br>**LO2.** Gain the knowledge in public awareness.<br>**LO3.** Understand the concept of environment pollution.<br>**LO4.** Learn the concept of food web and food chain.<br>**LO5.** Learn the concept of human rights and child welfare. |
| U18 | C++ & Data Structure | After completing this course, students will be able to:<br>**LO1.** Provide the basic concepts of object oriented programming.<br>**LO2.** Describe about functions, classes, constructors and types.<br>**LO3.** Implement Inheritance, Polymorphism and Files.<br>**LO4.** Learn the fundamentals of Data Structure.<br>**LO5.** Understand the Concept of Trees and Graphs. |
| U18 | C++ & Data Structure lab | After completing this course, students will be able to:<br>**LO1.** Learn to implement classes and object.<br>**LO2.** Learn to implement function and operator overloading.<br>**LO3.** Understand sequential file operation using Error handling function.<br>**LO4.** Apply array concept in stack and queue.<br>**LO5.** Learn to implement polynomial addition using linked list. |
| U18 | Value Education | After completing this course, students will be able to:<br>**LO1.** Learn the concept of Human values.<br>**LO2.** Gain the knowledge about family values and responsibilities.<br>**LO3.** Understand the ethical values.<br>**LO4.** Learn about status of women in family and society.<br>**LO5.** Learn about personality development and social values. |
| U18 | Java Programmi | After completing this course, students will be able to: |

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| | ng | **LO1**. Learn about Fundamentals and Object Oriented Concept of Java Programming<br>**LO2**. Learn about various methods of condition and looping.<br>**LO3**. Know about classes and objects of modifiers, Arguments, Constructors and Packages.<br>**LO4**. Learn about string handling, Exception handling and multithreading.<br>**LO5.** Learn about Applet basics of awt and swing concepts.<br>**LO6**. Learn about Database Connectivity of Java Programming. |
| U18 | Java Programming Lab | After completing this course, students will be able to:<br>**LO1.** Make package, inheritance and interface programming.<br>**LO2.** Make layout of Border, Flow and Grid Layout.<br>**LO3.** Know about Dialog menu and Frame Concept Program.<br>**LO4.** Know Exception handling, multithreading and file handling program.<br>**LO5.** Connect java with database using JDBC method.<br>**LO6.** Know about socket and GUI programs. |
| U18 | Design & Analysis of Algorithm | After completing this course, students will be able to:<br>**LO1.** Analyze Asymptotic Notation for Algorithm<br>**LO2**. Understand Binary Search using Divide and Conquer Method.<br>**LO3.** Understand Knapsack problem using Greedy Algorithm.<br>**LO4.** Define Backtracking method and its applications<br>**LO5.** Create Traveling Salesperson Problem using Dynamic Programming<br>**LO6.** Learn Branch and Bound, Np-Hard and Np-Completeness. |
| U18 | Introduction to Information Technology | After completing this course, students will be able to:<br>**LO1.** To explain the details about Hardware and Software.<br>**LO2.** To gain knowledge in types of computer system.<br>**LO3.** Write up the component of computers input, output and storage devices.<br>**LO4.** To Learn about the Operating System.<br>**LO4.** Understand the System analysis and Design. |
| U18 | Database Management Systems | After completing this course, students will be able to:<br>**LO1.** Describe the fundamental elements of Relational Database Management Systems<br>**LO2.** Explain the Basic Concepts of Relational data model, Entity Relationship model, Relational database design, relational algebra and SQL.<br>**LO3.** Design E-R Models to represent simple database application<br>**LO4.** Describe ER diagram and Design E-R Diagram for simple Database Applications.<br>**LO5.** Improve the Database design by Normalization. |
| U18 | RDBMS lab | After completing this course, students will be able to:<br>**LO1.** Develop a SQL program for table creation and simple queries.<br>**LO2.** Develop a SQL program to implement aggregate function and Set operation.<br>**LO3.** Develop a SQL program for nested sub queries and correlated sub queries.<br>**LO4.** Develop a SQL program to implement view creation and manipulation.<br>**LO5.** Develop a SQL program to implement PL/SQL program for cursor.<br>**LO6.** Develop a SQL l program to implement PL/SQL program for package.<br>**LO7.** Develop a SQL program to implement PL/SQL program for procedure and functions. |

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| U18 | Computer Organization and Architecture | After completing this course, students will be able to:<br>**LO1.** Better Understanding of Computer Architecture.<br>**LO2.** Know computer registers and computer instructions.<br>**LO3.** Know about computer addressing and different types of addressing.<br>**LO4.** Know about major things of peripheral devices.<br>**LO5.** Describe the important of primary and secondary memory. |
| U18 | Internet and its applications | After completing this course, students will be able to:<br>**LO1.** Know about internet basics and web resources.<br>**LO2.** Gain knowledge about Web Browsers and settings.<br>**LO3.** Understand E-mail and instance messaging .<br>**LO4.** To Learn about HTML Program.<br>**LO4.** Understand the Digital Cash. |
| U18 | Mobile Application Development | After completing this course, students will be able to:<br>**LO1.** Understand Android platform, Architecture and Features.<br>**LO2.** Understand User interface and develop activity for android APP.<br>**LO3.** Design and implement broadcast receivers and content providers.<br>**LO4.** Understand Database application with SQLite.<br>**LO5.** Understand the mobile app development and testing. |
| U18 | Operating System | After completing this course, students will be able to:<br>**LO1.** Learn about the services of operating system, process state and process scheduling.<br>**LO2.** Understanding different CPU scheduling, deadlock concepts.<br>**LO3.** Learn about the memory partitioning, allocation, protection and compaction.<br>**LO4.** Describe the concepts of Paging, Segmentation and Page Replacement Algorithm.<br>**LO5.** Learn about file structure, protection and allocation. |
| U18 | Data Communication & Network | After completing this course, students will be able to:<br>**LO1.** Learn about Network hardware, software and architecture.<br>**LO2.** Know about Various Design issues in Data link layer and Channel allocation problem.<br>**LO3.** Understand various Routing algorithms.<br>**LO4.** Understand broadcast and multicast routing congestion, control and internetworking.<br>**LO5.** Learn about user datagram protocol and transmission control protocols.<br>**LO6.** Learn about DNS, electronic mail and network security. |
| U18 | Mobile Application Development Lab | After completing this course, students will be able to:<br>**LO1.** Develop the simple application using button, text view and edit text.<br>**LO2.** Create an application which uses Radio buttons and option group.<br>**LO3.** Create an application Alert dialog box.<br>**LO4.** Create an application which create progress bar.<br>**LO5.** Develop an application with menus and intents.<br>**LO6.** Create an application with data picker widget.<br>**LO7.** Create an application with spinner. |
| U18 | Operating System Lab | After completing this course, students will be able to:<br>**LO1.** Learn to implementing the Process system calls..<br>**LO2.** Learn to implementing IPC using message queues..<br>**LO3.** Implement CPU & Scheduling algorithm for first come first serve scheduling.<br>**LO4.** Implement CPU Scheduling for Round Robin Scheduling. |

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| | | **LO5.** Implement first fit, best fit algorithm for memory management .<br>**LO6.** Develop Shell Program to find factorial of a given number. |
| U18 | Data Mining | After completing this course, students will be able to:<br>**LO1.** Understand Basic concepts of Data mining.<br>**LO2.** Learn the Data mining tasks, classification, clustering and Data warehousing techniques.<br>**LO3.** Understand the basic data warehouse structure.<br>**LO4.** Learn the data mining algorithms to build analytical applications.<br>**LO5.** Understand various Clustering techniques and outlier analysis.<br>**LO6.** Analyze transaction database for association rules. |
| U18 | Software Engineering | After completing this course, students will be able to:<br>**LO1.** Know the basic software engineering methods and practices and their appropriate application.<br>**LO2.** Describe software engineering Layered technology and process frame work.<br>**LO3.** Understand software process models such as Waterfall and Evolutionary models.<br>**LO4.** Understanding of software requirements and SRS Documents.<br>**LO5.** Understand the role of Project management including Planning, Scheduling and Risk Management. |
| U18 | Cloud Computing | After completing this course, students will be able to:<br>**LO1.** Understand the concept of Cloud Computing basics and Architecture.<br>**LO2.** Develop cloud services.<br>**LO3.** Gather the knowledge of cloud computing on communication, community and group project.<br>**LO4.** Learn about programming model for Google, AWS.<br>**LO5.** Gather and analyze security in the cloud. |
| U18 | Open Source Programming | After completing this course, students will be able to:<br>**LO1.** Understand the principles of creating an effective web page.<br>**LO2.** Understand the basic set of commands and utilities in Linux file system.<br>**LO3.** Understand how to create database and tables in MYSQL.<br>**LO4.** Understand how server-side programming works on web.<br>**LO5.** Learn the concepts of Database connectivity with php and mysql. |
| U18 | ASP.NET Lab | After completing this course, students will be able to:<br>**LO1.** Create knowledge about the basic controls.<br>**LO2.** Create a design knowledge to work in specified various form design.<br>**LO3.** Implement the validation control and state management techniques.<br>**LO4.** Develop the server side controls.<br>**LO5.** Learn to run a program using ADO.net to access the data. |
| U18 | Open Source Programming Lab | After completing this course, students will be able to:<br>**LO1.** Understand the creation of web page with frames and tables.<br>**LO2.** Learn about the creation of web page using cascading style sheet.<br>**LO3.** Learn Shell program for checking the given string is a palindrome or not.<br>**LO4.** Know about java script and develop simple calculator.<br>**LO5.** Understand check message passing between pages in php.<br>**LO6.** Learn about the database connectivity and manipulate records in a web.<br>**LO7.** Learn about cookies and sessions. |

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| U18 | Software Testing | After completing this course, students will be able to:<br>**LO1.** Design and conduct the software testing process for software testing project.<br>**LO2.** Use various communication methods and communicate with their team mates to conduct their practice-oriented software testing projects.<br>**LO3.**Understand and identify various software testing problems.<br>**LO4.** Use software testing method and modern software testing tools for testing projects. |
| U18 | Multimedia Systems | After completing this course, students will be able to:<br>**LO1.** Understand digital sound, editing and mixing sound files and high resolution graphics.<br>**LO2.** Create a simple animation and interaction for multimedia Presentation<br>**LO3.** Know about digital image concepts, motion tracking and capturing systems.<br>**LO4.** Script Writing and creating interactive and non-interactive presentation.<br>**LO5.** Know about Hotspot editor , media control interfaces and video capturing. |
| U18 | ASP.NET | After completing this course, students will be able to:<br>**LO1.** Develop the application web control classes and control tags.<br>**LO2.** Implement the ASP.NET web configuration file and HTML controls.<br>**LO3.** Implement the Data Access in ASP.NET.<br>**LO4.** Design the ASP.NET Component Program.<br>**LO5.** Implement the web application custom control and user controls in ASP.NET. |
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| **Course Code** | **Course Name** | **Learning Outcome** |
| P15 | Formal Languages and Automata Theory | After completing this course, students will be able to:<br>**LO1.** Underastand, design, construct, analyse and interpret regular languages, expression and grammar.<br>**LO2.** Design different types of finite automata and machines as acceptor, verifier and translator.<br>**LO3.** Understand design, analyses and interpret context free languages, expression and grammars.<br>**LO4.** Design different types of push down automata as simple parser.<br>**LO5.** Design different types of Turing machine as acceptor, verifier and translators. |
| P15 | Advanced Java Programming | After completing this course, students will be able to:<br>**LO1.** Know about fundamental Design Patterns.<br>**LO2.** Learn about Applet and their features.<br>**LO3.** Learn about GUI concepts and various types of applet components.<br>**LO4.** Know about Database program, Developing application with database connectivity.<br>**LO5.** Learn about Servlet, java server pages, client side programming and AJAX. |
| P15 | Web Application using C# | After completing this course, students will be able to:<br>**LO1.** Learn the concepts of ASP.NET basics and technologies.<br>**LO2.** Learn the concept of exploring ASP.NET web pages and coding models.<br>**LO3.** Gain the knowledge about Accessing data in ASP.NET and ADO.NET Frame work.<br>**LO4.** Learn about ASP.NET web services.<br>**LO5.** Knowledge in user control, custom control and understanding crystal reports. |

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| P15 | Data Base Management Systems | After completing this course, students will be able to:<br>**LO1.** Describe the fundamental elements of Relational Database Management Systems<br>**LO2.** Explain the Basic Concepts of Relational data model, Entity Relationship model, Relational database design, relational algebra and SQL.<br>**LO3.** Design E-R Models to represent simple database application<br>**LO4.** Describe ER diagram and Design E-R Diagram for simple Database Applications.<br>**LO5.** Improve the Database design by Normalization.<br>**LO6.** Know about overview of physical storage media and Distributed Databases. |
| P15 | Advanced Java Programming lab | After completing this course, students will be able to:<br>**LO1.** Know about applet and develop application using various components of applet.<br>**LO2.** Connect TCP and UDP connection networking.<br>**LO3.** Know about develop web application using servlet concepts.<br>**LO4.** Develop JSP application with JDBC database.<br>**LO5.** Develop database application using various queries. |
| P15 | Web Application using C# lab | After completing this course, students will be able to:<br>**LO1.** Implement the ASP.NET web configuration file and HTML controls.<br>**LO2.** Develop the application Web control clauses and control tags.<br>**LO3.** Learn to run a program validation controls and rich controls.<br>**LO4.** Implement the data access in ASP.NET.<br>**LO5.** Implement the web application custom control and user controls in ASP.NET. |
| P15 | Database Management Systems lab | After completing this course, students will be able to:<br>**LO1.** Develop a sql program to Create table- Modify table - Drop table.<br>**LO2.** Implementing the Constraints - NULL and NOT NULL - Primary Key and Foreign Key Constraint.<br>**LO3.** Develop a sql program for Retrieving Data Using Simple select clause – Accessing specific data with Where - Ordered By - Distinct and Group By.<br>**LO4.** Implement all String functions and Date and Time Functions, union, intersection, set difference.<br>**LO5.** Implement Nested Queries & JOIN operation.<br>**LO6.** Practical Based on implementing use of triggers, cursors & procedures.<br>**LO7.** Practical Based on performing different operations on a view. |
| P15 | Principles of Programming Language | After completing this course, students will be able to:<br>**LO1.** Understand the concept and terms that support the imperative ,functional, object oriented and logic programming paradigms.<br>**LO2.** Solve problems using Functional paradigms.<br>**LO3.** Evaluate the paradigm and languages are best suited for a new problem.<br>**LO4.** Solve the problems using logic and object-oriented paradigms.<br>**LO5.** Design features of Programming Language and justify your design decisions. |
| P15 | Compiler Design | After completing this course, students will be able to:<br>**LO1.** Understand the compiler and various phases in compilation and also design NFA and DFA.<br>**LO2.** Understand parser and implement it using lex tools.<br>**LO3.** Understand Syntax directed translation, Symbol tables and their applications. |

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| | | **LO4.** Learn the Importance of storage allocation strategies.<br>**LO5.** Generate machine code from the intermediate code forms. |
| P15 | Enterprise Java Programming | After completing this course, students will be able to:<br>**LO1.** Learn about Java enterprise edition, JNDI service, application service and specifications.<br>**LO2.** Develop JSF application using Html tags.<br>**LO3.** Learn about Enterprise Beans in session,entity,message driven and content of Bean.<br>**LO4.** Know about struts classes and their action classes.<br>**LO5.** Learn about Hibernate and different type of mapping. |
| P15 | Enterprise Applications using C# | After completing this course, students will be able to:<br>**LO1.** Create and consume database component and enhance the component with error handling.<br>**LO2.** Create User control and Custom control.<br>**LO3.** Design Profile,caching to provide multiple views.<br>**LO4.** Determine Security Requirements.<br>**LO5.** Develop application with enterprise library. |
| P15 | Unix Network Programming | After completing this course, students will be able to:<br>**LO1.** Learn Directory and file commands in Unix.<br>**LO2.** Learn about Unix library function and system calls.<br>**LO3.** Learn about environment of a Unix process.<br>**LO4.** Describe TCP, UDP and Multiplexing concepts.<br>**LO5.** Know about execution in shell scripts. |
| P15 | Enterprise Java Programming Lab | After completing this course, students will be able to:<br>**LO1.** Know JSF and JSP applications.<br>**LO2.** Know Html render kit, core render kit in JSF application.<br>**LO3.** Know about web client application and session Bean developing.<br>**LO4.** Know about different types of struts action method.<br>**LO5.** Know about different types of mapping method. |
| P15 | Enterprise Applications using C# Lab | After completing this course, students will be able to:<br>**LO1.** Consume database component in simple component.<br>**LO2.** Create Custom control and User control.<br>**LO3.** Cache the output, data and web page.<br>**LO4.** Create profile and provide Customized setting for the user.<br>**LO5.** Authenticate form using RSA algorithm.<br>**LO6.** Implement deployment tools.<br>**LO7.** Develop data access, exception in enterprise library tool. |
| P15 | Unix Network Programming lab | After completing this course, students will be able to:<br>**LO1.** Run various Unix commands on a standard Unix/Linux operating system.<br>**LO2.** Run c/c++ programs on Unix.<br>**LO3.** Do shell programming on Unix os.<br>**LO4.** Understand and handle Unix system calls. |
| P15 | Human Rights | **LO1.** Learn about Human rights such as nature, content, legitimacy and priority.<br>**LO2.** Learn about international human rights in UNO.<br>**LO3.** Learn about international human rights such as European and African.<br>**LO4.** Learn rights about children, women and dalit.<br>**LO5.** Know about fundamental rights in the Indian Constitution. |

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| P15 | Software Testing | After completing this course, students will be able to:<br>**LO1.** Design and conduct the software testing process for software testing project.<br>**LO2.** Use various communication methods and communicate with their team mates to conduct their practice-oriented software testing projects.<br>**LO3.**Understand and identify various software testing problems.<br>**LO4.** Use software testing method and modern software testing tools for testing projects. |
| P15 | Distributed Operating Systems | After completing this course, students will be able to:<br>**LO1.** Understand the different distributed System and challenges involved in design of distributed system.<br>**LO2.** Design and implement distributed application using technologies like RPC, threats.<br>**LO3.** Understand how computing power is created and synchronized in distributed system.<br>**LO4.** Learn how to store data in distributed system.<br>**LO5.** Learn how to configure the development environment. |
| P15 | Software Project Managemen t | After completing this course, students will be able to:<br>**LO1.**Know about various types of project and project management.<br>**LO2.** Know about planning and development method of project.<br>**LO3.** Lean about different types of project metrics.<br>**LO4.** Know about benefits and technology related to ERP.<br>**LO5.** Know about milestone of project. |
| P15 | Mobile Computing | After completing this course, students will be able to:<br>**LO1.** Apply the fundamental design paradigms and technologies to mobiles computing applications.<br>**LO2.** Develop consumer and enterprise mobile application using representative mobiles devices and platform using modern development methodologies.<br>**LO3.** Design effectives mobile interfaces using human computer interaction principles.<br>**LO4.**Evaluate the role of mobile application in software intensive system.<br>**LO5.** Evaluate the usability of representative mobile devices such as smart phones and tablets. |
| P15 | Design and Analysis of Algorithms | After completing this course, students will be able to:<br>**LO1.** Analyses Asymptotic Notation for Algorithm<br>LO2. Understand Binary Search using Divide and Conquer Method.<br>**LO3.** Understand Knapsack problem using Greedy Algorithm.<br>**LO4.** Define Backtracking method and its applications<br>**LO5.** Create Traveling Salesperson Problem using Dynamic Programming<br>**LO6.** Learn Branch and Bound, Np-Hard and Np-Completeness. |
| P15 | Mobile Computing lab | After completing this course, students will be able to:<br>**LO1.** Develop the simple application using button, text view and edit text.<br>**LO2.** Create an application which uses Radio buttons and option group.<br>**LO3.** Create an application Alert dialog box.<br>**LO4.** Create an application which create progress bar.<br>**LO5.** Develop an application with menus and intents.<br>**LO6.** Create an application with data picker widget.<br>**LO7.** Create an application with spinner. |

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| P15 | Design and Analysis of Algorithms Lab | After completing this course, students will be able to:<br>**LO1.** Learn how to implement divide and conquer method for sorting and searching.<br>**LO2**. Implement dynamic programming.<br>**LO3.** Learn about minimum cost spanning tree.<br>**LO4.** Implement N-Queens problem using backtracking.<br>**LO5.** Learn about sum of subsets of numbers. |
| P15 | Mini Project | After completing this course, students will be able to:<br>**LO1.** Identify, define and justify scope of the proposed problem.<br>**LO2.** Gather and analyze system requirements.<br>**LO3.** Propose an optimized solution among the existing solutions.<br>**LO4**. Prepare the proper documentation of software projects. |
| P15 | Software Quality Assurance | After completing this course, students will be able to:<br>**LO1.** Understand Quality management and software configuration management.<br>**LO2.** Know about managing software quality and organizations.<br>**LO3.** Understand total quality management and quality metrics.<br>**LO4.** Know software quality program concepts and software quality assurance planning.<br>**LO5.** Understand about software standards and SQA role in software development maturity. |
| P15 | Project | After completing this course, students will be able to:<br>**LO1.** Identify, define and justify scope of the proposed problem.<br>**LO2.** Gather and analyze system requirements<br>**LO3.** Propose an optimized solution among the existing solutions.<br>**LO4.** Practice software analysis and design techniques.<br>**LO5.** Develop a functional application based on the software design.<br>**LO6.** Apply coding, debugging and testing tools to enhance the quality of the software design.<br>**LO7**. Prepare the proper documentation of software projects following the standard guidelines.<br>**LO8**. Learn technical report and oral presentation skills. |
| M06 | Research Methodology | After completing this course, students will be able to:<br>**LO1.** Learn the basic methods for reading technical papers.<br>**LO2.** Select research topics.<br>**LO3.** create research questions.<br>**LO4.** Plan research.<br>**LO5.** Produce broader theories |
| M06 | Artificial Neural Networks | After completing this course, students will be able to:<br>LO1. Learn the basic Concepts of Neutral Networks.<br>LO2. Learn about Supervised and Unsupervised Learning.<br>LO3. Understand Mathematical Modeling and Application of Neural Networks.<br>LO4. Understand Symbolic Methods and Neural Network Methods.<br>LO5. Learn about knowledge- based artificial neural networks. |

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| M06 | Selected Topics in Computer Science (Viva Voce / Dissertation ) | After completing this course, students will be able to:<br><br>LO1. Design courses and curriculum<br>LO2. Design lectures and facilitate discussions<br>LO3. Supervise projects and dissertation and guiding thesis<br>LO4. Design assessments and evaluate courses<br>LO5. Develop listening, speaking, reading and writing skills |

## DEPARTMENT OF CORPORATE SECRETARYSHIP

| PROGRAMME OUTCOMES |
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| **PO 1. E**nsure the students to understand the various accounting formalities & procedures. |
| **PO 2. B**ring in the knowledge about economical conditions. |
| **PO 3.** Bring the skills of understanding the Companies Act 2013. |
| **PO 4.** Build in students the knowledge about vouching & auditing. |
| **PO 5.** Impart the knowledge of recent provisions of Income Tax. |
| **PO 6**. Bring in students the methodology of research process. |
| **PO 7.** Enable the students about the internship / project programme. |
| **PO 8.** Impart the concepts of statistical tools. |

| PROGRAMME | PROGRAMME SPECIFIC OUTCOMES |
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| **B.COM (CORPORATE SECRETARYSHIP)** | After completing the course of B.Com (cs) the student will have the ability of :-<br>**POS 1**. Impart learning in management functions such as personnel, production, Marketing, finance etc.<br>**POS 2**. Familiarize the students with business terminology, clerical skills, Procedures and business concepts.<br>**POS 3**. Ensure that B.Com (cs) students are equipped with their skills to fit in the jobs of the Corporate World.<br>**POS 4**. Make the students to pursue Post Graduation & Professional Degree like M.Com, M.B.A, CA, ACS, ICWA.<br>**POS 5**. Enable the students to become entrepreneur. |

| COURSE CODE | COURSE NAME | LEARNING OBJECTIVES |
|---|---|---|
| BKS11 | FINANCIAL ACCOUNTING - I | LO1.To understands the meaning of Accounting and Accountancy.<br>LO2.To understands the terms used in Accounting .<br>LO3. To known how the Accounting Entries are posted in books.<br>LO4. To known the Accounting System for Non – Profit Organisation.<br>LO5. To study about the claims under Fire to the companies. |
| BKS12 | BUSINESS MANAGEMENT | LO1. To develop the knowledge of business & management principles.<br>LO2. To learn decision thinking & problem skills.<br>LO3. To study effective organisation & organisation structure.<br>LO4. To teach a sense of responsibility & capacity for business management.<br>LO5. To enable an awareness of the Global Environment in which business operate. |
| BAKS13A | MANAGERIAL ECONOMICS - I | LO1. To study the role of managers in various firms.<br>LO2. To analyse the demand & supply of market conditions & its elasticity.<br>LO3. Learn about the future demand.<br>LO4. To study the various laws of proportions & cost concept<br>LO5.To be known about the BEP & Linear Programming. |
| BES10 | ENVIRONMENTAL STUDIES | LO1. To study about the various natural resources.<br>LO2. To understand the concept of ecosystem & ecological pyramids & bio diversity.<br>LO3. To be known about the different pollutions that affects the environment.<br>LO4. To study about the social based issues.<br>LO5. To analyse & understand the practical work in environment. |
| BKS21 | FINANCIAL ACCOUNTING - II | LO1. To study about the types of branch accounting.<br>LO2. To be known regarding the procedure in inter departmental transfer.<br>LO3. To analyse the accounting formalities in hire paurchase & instalment system.<br>LO4. To know the business activities done in partnership firm.<br>LO5. To study the various modes of dissolution in partnership. |
| BKS22 | HUMAN RESOUR | LO1. To understand the concept of Management. |

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| | CE MANAG EMENT | LO2. To know the process of recruitment & selection done in an organisation.<br>LO3. To Know how the employees are given training using different methods & the development programmes.<br>LO4. To study about the transfer & promotion policy.<br>LO5. To be known how the organisation analyse the performance of the employees. |
| BAKS23A | MANAG ERIAL ECONOM ICS - II | LO1. To study the various market competition and structure.<br>LO2. To undersrand the pricing methods.<br>LO3.To analyse the profit management and of profit<br>LO4. To be known about the techniques of PERT & CPM.<br>LO5. To study the elements of decision theory. |
| BGA20 | VALUE EDUCAT ION | LO1. To study the concept of human values.<br>LO2. To understand family values & women in family.<br>LO3. To understand the concept of ethics & different types of ethics.<br>LO4. To be known about social & consumer awareness<br>LO5. To study about the environmental issues |
| BKS31 | COMPAN Y LAW & SECRET ARIAL PRACTIC E - I | LO1. To know an overview of Companies Act 1956 & Companies Secretaries Act 1980.<br>LO2. To understand the position of the Company Secretary.<br>LO3. To study about the Certificate that to be obtained in formation of the Company.<br>LO4. To be known about the basic documents of the Company<br>LO5. To analyse the types of capital and its alteration. |
| BKS32 | CORPOR ATE ACCOUN TING - I | LO1. The main objectives of the subject is to provide the knowledge of companies, shares and regularity of companies.<br>LO2. To provide knowledge about issue of Shares & issue of Debentures.<br>LO3. To provide profit for pre-incorporation & post - incorporation.<br>LO4. To understand the final accounts of the company.<br>LO5. To study the procedure for Redemption. |
| BAKS33A | STATISTI CS - I | LO1. To understand the methods of data collection.<br>LO2. To be known about the various statistical tools.<br>LO3. To study about the different average measures. |

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| | | LO4. To know about the deviations & coefficient of variation.<br>LO5. To understand the methods of skewness given by Karl Pearson & Bowley's |
| BSKS34 | COMPUTER APPLICATION IN BUSINESS | LO1. To understand an overview of MS - Word.<br>LO2. To know the procedure for formatting a Document.<br>LO3. To study about the concept of editing, sorting & filtering datas.<br>LO4. To be known about the ways of presenting a document in the power point slides.<br>LO5. To understand the concept of clipart. |
| BKS41 | COMPANY LAW & SECRETARIAL PRACTICE - II | LO1. To study about the Borrowing Powers of the Company<br>LO2. To understand an overview of Directors<br>LO3. To be known about the various meetings conducted by the Company.<br>LO4. To analyse the rules regarding the dividend annual accounts.<br>LO5. To be known about the different modes of winding up of the Company. |
| BKS42 | CORPORATE ACCOUNTING - II | LO1. To study about the valuation of Goodwill.<br>LO2. To study the accounting procedures in Amalgamation, Absorption & Reconstruction.<br>LO3. To understand the concept of liquidation accounting.<br>LO4. To be known about the list of schedules to be followed in Banking Accounts<br>LO5. Improving the ability to prepare Consolidated Balance Sheet for a corporate sector. |
| BAKS43A | STATISTICS - II | LO1. To understand the concepts of Karl Pearson's & Spearman's Rank Correlation.<br>LO2. To analyse the regression equations.<br>LO3. To study about the seasonal variations & cyclical fluctuations.<br>LO4. To be known about the Time Reversal & Factor Reverssal Test.<br>LO5. To understand the Statistical Quality Control. |
| BSKS44 | IMPORT & EXPORT PRACTICE | LO1. An overview of Globalisation.<br>LO2. To study the concept of trading regulation in India<br>LO3. To be known about the export formalities & procedures.<br>LO4. To understand about the payment terms of both Export & Import.<br>LO5. To study about OGL & SEZ. |
| BKS51 | COST | LO1. To analyse the cost of producing a product. |

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| | ACCOUNTING | LO2. To understand the concept of EOQ, ABC Technique & Pricing of material issues.<br>LO3. To study the various methods for the of wages.<br>LO4. An overview of allocation & apportionment of overheads.<br>LO5. To be known about the job, operating & process costing. |
| BKS52 | FINANCIAL SERVICES | LO1. To study about the concept of financial services.<br>LO2. To understand the role & functions of SEBI & Merchant Banking.<br>LO3. To be known about the Leasing & Hire Purchase.<br>LO4. To analyse the concept of factoring.<br>LO5. An overview about Insurance. |
| BKS53 | INCOME TAX LAW & PRACTICE - I | LO1. To make provisions of Direct Tax with regard to IT Act 1961 & IT rules 1962.<br>LO2. To make agricultural income, residential status & incidence of tax.<br>LO3. To understand the provisions & procedures to compute total income<br>LO4. Income from Salary<br>LO5. Income from House Property<br>LO6. Income from Business or Profession. |
| BKS54 | COMMERCIAL LAW | LO1. To undertand the various classifications of contracts.<br>LO2. An overview of essential elements of contract.<br>LO3. To study about the Indemnity & Guarantee.<br>LO4. To be known about the different kinds of agent & their responsibilities.<br>LO5. To study the Sale of Goods Act 1930. |
| BEKS55A | ENTREPRENEURIAL DEVELOPMENT | LO1. To understand the concept of entrepreneur and the related views given by few theorists.<br>LO2. An overview about Women & Rural Entrepreneurs.<br>LO3. To study about the feasibility report.<br>LO4. To be known about the various forms of ownership.<br>LO5. To understand the concept of DIC, SIDCO, SIPCOT, IDBI & ICICI. |
| BSKS56 | RESEARCH METHODOLOGY | LO1. To understand the concept of Research.<br>LO2. To analyse the concept of research problem & hypothesis.<br>LO3. To study about the methods of data collection.<br>LO4. To be known about the sampling techniques. |

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| | | LO5. To study about the report writing. |
| BKS61 | MANAGEMENT ACCOUNTING | LO1. An overview of Management Accounting.<br>LO2. To analyse the concept of BEP & cost volume profit analysis.<br>LO3. To understand about the FFS & CFS.<br>LO4. To be known about the various classification of ratios.<br>LO5. To study about the Cash Budget, Production & Sales Budget. |
| BKS62 | AUDITING | LO1. To study the audit programme & audit terminology.<br>LO2. To check the accuracy of accounting transcations.<br>LO3. To understand the procedures of valuing the Assets & Liabilities.<br>LO4. To know the duties & responsibilities of an Auditor<br>LO5. To be known about specialized audit system. |
| BKS63 | INCOME TAX LAW & PRACTICE - II | LO1. To understand Capital Gain & Income from other sources.<br>LO2. To undersatnd the provision & procedures for clubbing & aggregation of incomes & set off & carry forward of losses.<br>LO3. To understand the various deductions to be made Gross Total Income under Section 80 C to 80 U in computing total income<br>LO4. To understand Tax Liability<br>LO5. To understand anvance tax return & tax return forms. |
| BEKS64A | CORPORATE COMMUNICATION | LO1. To understand techniques of effective communication.<br>LO2. To make awareness about barriers to communication.<br>LO3. To understand the process of E-mail communication & minutes of meeting.<br>LO4. To understand the concept and structure of report writing.<br>LO5. To develop & improve various skills like communication, reading, listening, note making, speaking,body language |
| BEKS65A | MARKETING MANAGEMENT | LO1. To study about the evolution of marketing & forecasting.<br>LO2. To understand the concept of marketing mix & distribution.<br>LO3. To be known the various types of pricing and modes of advertising.<br>LO4. To analyse about the buyer behaviour.<br>LO5. To analyse the Indian Marketing Environment. |
| BSKS66 | INSTITUTIONAL | LO1. To analyse the activities of a Company in a practical way. |

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| | TRAININ G | LO2. To understand the business formalities & procedures undergone by the company.<br>LO3. To study about the various departments in the company.<br>LO4. To be known about the analysis & interpretation of datas collected from the employees of the company.<br>LO5. It provides a new knowledge & experience to the students practically by approaching the company. |

**Program outcomes of English Department**

**Programme Outcomes of the Department**

**Objectives:**

1. Enhance students to understand literature in various perspectives along with the contemporary forms of Culture.
2. Provide student to aware of ethical moral values to survive not as a men or women but as human beings.
3. Educate students clear enough to know their essential role in society.
4. Assist students to develop their interpretation, documentation, conversational English, creativity, imagination etc.

**Outcomes:**

Those successfully completing English Literature (BA) will be able to:

**PO1.** Distinguish the different types of genres in Literature (Fiction, Non-Fiction, Poetry, Drama) and will analyze the approaches (Post – colonial, Marxism, Feminism, Eco-Criticism) behind every text.

**PO2.** Ability to read and evaluate primary documents according to the rubrics of different literary approaches.

**PO3**. Students will get to know the wide range of literary customs, traditions, culture all over the world.

**PO4**. Students will able to understand the primary text by evaluating it, with its historical biographical background.

**PO5.** Discuss and compare major and influential issues addressed in literature with contemporary living society or any other historical background.

**PO6.** Students can able to understand that Gender is not a barrier, literature helps to pursue students what they want to do and overcome their struggles.

**PO7.** With the help of Phonetics and linguistics, they will be able to pronounce with clarity.

**PO8.** Students will get to know what is a research thesis using print and electronic resources to create new ideas using their critical thinking.

**PO9.** Students will mould their grammatical techniques able to construct a better sentence pattern while writing a thesis or essay or could improvise conversational English.

**PO10.** Students will develop or intensify the process of teaching.

**PO11.** Students will embody life- long learning skills in professional and personal life.

## PROGRAM SPECIFIC OUTCOME OF THE DEPARTMENT

A graduate with a B.A English Literature will have the ability to:

**PSO1.** Classify the genres of literature, literary terms and literary devices.
**PSO2.** Evaluate and analyze literature of other nation i.e., British, Amercian…
**PSO3.** Students will comprehend the trends in contemporary period literature drawing examples and approaches from literature.
**PSO4.** Familiar with the writers, poets, their miscellaneous contribution to literature.
**PSO5.** Able to interpret implied meanings of the text.
**PSO6.** Students could use the sentence with rich vocabulary and improved pronunciation of words.
**PSO7.** Able to engage themselves in conversation.

**MA:**

**PSO1.** Students will become consummate, active readers and can effectively decipher the actual meaning.
**PSO2.** Students will gain knowledge in different literary culture and ideas written in English.
**PSO3.** Students will be able to know literary approaches and can compute it with contemporary issues, which helps them in logical thinking.
**PSO4.** Students will be capable to present their paper in a seminar or could do an online publication.
**PSO5.** Students will be acute in their Pronunciation.
**PSO6.** Students can fervor over literature which leads them to the path of a long lasting reading process of world literature.

**M. Phil:**

**PSO1.** Students will be pertaining the context to develop the given idea for the interpretation or they will imply the text in some other point of view.
**PSO2.** Analyze and evaluate cultural, imaginary, rhetorical, political elements in literature.
**PSO3.** Students will be able to choose appropriate methods and strategies for teaching professions, proof reading, editing etc.
**PSO4.** Students will be able to present research papers in seminars and conferences.
**PSO5**. Students will be capable of publishing either journals, e-journals or blogs.
**PSO6**. Students will have an insight into historical and cultural contexts.
**PSO7.** Students will pursue Ph. D program with scholarly research ideas.

**III-A.LEARNING OUTCOMES – B.A.ENGLISH LITERATURE**

| COURSE CODE | COURSE NAME | LEARNING OUTCOME |
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| BLE 10 | English I | At the end of the course, students will able to:<br><br>**LO1.** Know the value of friendship, importance of being connected with the nature, hazardous in Technological development.<br>**LO2.** Understand the Poetic devices; know about Greek mythological stories, the civil war of America.<br>**LO3.** Understand Children's Psychology, and about the importance of pardon and pardoning.<br>**LO4.** Grow the helping tendency.<br>**LO5.** Improve vocabularies, strategies in spellings, and comprehensive skills.<br>**LO6.** Use greeting, seeking permission phrases in routine. |
| BEN11 | Indian Writing In English | At the end of the course, students will able to:<br><br>**LO1.** Inherit values and developed human concern through the versatile works of Indian writing in English<br>**LO2**. Gain knowledge of major literary movements and writers of Indian English literature.<br>**LO3**. Analyze the style and language employed in the poems, fiction, non -fiction and drama in Indian literature.<br>**LO4.** Demonstrate understanding of the social and artistic movements that have shaped the Indian culture and literature.<br>**LO5.** Students will develop abilities as critical thinkers and readers. |
| BEN12 | Advanced English Grammar | At the end of the course, students will able to:<br><br>**LO1.** Able to differentiate the kinds of sentences.<br>**LO2.** Understand the rules of Direct and Indirect speech, Active and Passive voice.<br>**LO3.** Able to write paragraphs using the parts of speech.<br>**LO4.** Demonstrates the use of nouns, pronouns and verbs.<br>**LO5.** Able to identify the clauses and use conjunction to combine them into more complex sentences. |
| BAEN13 | Literary Forms And Terms ( ALLIED) | At the end of the course, students will able to:<br><br>**LO1.** Understand about the content, language, style, tone and structure in poetry.<br>**LO2.** Importance of writing essay, short story, biography and autobiography.<br>**LO3.** Develops the literary skills in poetry, drama and prose.<br>**LO4.** Learnt about the usage of simile, metaphor, personification, oxymoron, allusion, rhyme. |

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| | | **LO5.** Encourage them to differentiate the types in poetry, drama and novel. |
| BES10 | Environmental Studies | At the end of the course, students will able to:<br><br>**LO1.** Able to understand the Green house effect, soil, water and air pollution, acid rain, etc.<br>**LO2.** Apply the knowledge to aware common people about environmental pollution.<br>**LO3.** Able to do more research on waste management, nuclear waste management, biodegradation of hazardous wastes etc.<br>**LO4.** How to protect the forest<br>**LO5.**students got the awareness about social act and rules. |
| BLE20 | English II | At the end of the course, students will able to:<br><br>**LO1.** Importance of being a hard worker, about the prosperous Indian Culture, knows how, forgetting impacts one's life.<br>**LO2.** Analyze the value of facing hardships in life and recognize Roman Gods and are associate with different elements of nature.<br>**LO3.** Interpret and do good actions, treat others equally, and presence of mind and action in due time.<br>**LO4.** Use Idioms in everyday speech, and to connect sentences using connectives.<br>**LO5.** To offer help and decline it and to invite, decline and accept Invitations. |
| BEN21 | British Literature I | At the end of the course, students will able to:<br><br>**LO1.** Understand the role the social class plays and grasp the greatness of 16$^{th}$ century poetry.<br>**LO2.** Understand the values of life through various styles of reflection on life.<br>**LO3.** Read historically – What are some of the connections between Doctor Faustus and the historical period in which it was written?<br>**LO4.** The students will be able to carry out simple calculation to measure the mechanical advantage of different pulleys.<br>**LO5.** Demonstrate understanding of the social and artistic movements that have shaped theatre and dance as we know it today. |
| BEN22 | American Literature I | At the end of the course, students will able to:<br><br>**LO1.** Understand poet's sensuous imagination through images, metaphors and symbols<br>**LO2.** Understand the poetic devices and moral values.<br>**LO3.** Recognize the scholar's role as a part of the all inclusive human body.<br>**LO4.** Explores interrelated themes in modern literature.<br>**LO5.** Explores how the character of captain Ahab acts as a foil to the narrator Ishmael. |

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| BAEN23 | The Social History Of England | At the end of the course, students will able to:<br><br>**LO1.** To know the nature of ancient history of Britain as a coherent, chronological narrative.<br>**LO2.** Analyses the process of civilization, parliament and peasantry.<br>**LO3.** Understands the gradual changes in place and life style of people.<br>**LO4.** Developments in technologies and in other **modes**<br>**LO5.** Understands the revolution in industries and agriculture. |
| BGA20 | Value Education | At the end of the course, students will able to:<br><br>**LO1.** Students were got knowledge about value of education.<br>**LO2.** Students got idea about how to lead the family in society.<br>**LO3.** Able to personality development.<br>**L04.** Understood about social awareness and consumer rights.<br>**LO5.** Students got idea about modern warfare and terrorism. |
| BSS20 | Soft Skill | At the end of the course, students will able to:<br><br>**LO1.** Be a active listener, document whenever there is a need, mould the comprehensive skills.<br>**LO2.** Follow instructions and transcode given information.<br>**LO3**. Enhance day to day communication.<br>**LO4.** Use Prefixes and suffixes properly in a sentence.<br>**LO5.** Understand the Importance of facial expressions, tone of voice, eye contact, postures while interacting with others. |
| BLE 30 | English III | At the end of the course, students will able to:<br><br>**LO1**. Learned about the importance of Pleasing.<br>**LO2.** Acquired the service of Mother Teresa.<br>**LO3.** Give Importance to time and family.<br>**LO4**. Know the lesson one who sowed the verb chops the verb.<br>**LO5.** Use functional grammar and functional English.<br>**LO6.** Congratulate and complement others using English phrases. |
| BEN31 | British Literature III | At the end of the course, students will able to:<br><br>**LO 1.** Understand the Moral Values and Mythological Concept<br>**LO2.** Identify the New Vocabulary<br>**LO3**.Analyse the Social Condition in Eighteenth Century<br>**LO4.** To Know about the Superstition |

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| | | **LO5.** Understand the Fantasy and Adventure |
| BEN32 | American Literature II | At the end of the course, students will able to:<br><br>**LO1.** Acquired the styles of American writers.<br>**LO2.** Learnt about the importance given to social issues by the authors.<br>**LO3.** Gains the ability to understand the depressions in human race.<br>LO4. Helps to understand about the artistry skill in America through poetry.<br>**LO5.** Understand the effects of World war and path towards the people's boring life. |
| BAEN33 | History Of English Literature I | At the end of the course, students will able to:<br><br>**LO1.** Origins of English Language in Historical view understand the Spiritual Pilgrimage.<br>**LO2.** The aspects of play and theatre adherence genre hoe would be in Elizabethan period. Following how was play enacted.<br>**LO3.** Shakespeare's all plays and its setting of theater, characteristics of his works revival human being sensation whether it would be joy or sorrows.<br>**LO4.** Importance spiritual thoughts and way of human life in ancient period.<br>**LO5.** Restoration period Dryden's works and his alternatives of pre- restoration writers works and its impact in literature. |
| BSEN34 | Skill For Employment I (SBS I) | At the end of the course, students will able to:<br><br>**LO1.** Ho to developed oral communication in everyday conversation. Learning process of (LSRW)<br>**LO2.** Attentive process of in workplace and documentation.<br>**LO3.** Developing written communication in everywhere.<br>**LO4.** Methods of reading and its types, barriers than how to solve it.<br>**LO5.** Rules of reading and its instructions Comprehensive way of reading like charts, tables and so on. |
| BNCS34 | Introduction To Information Technology (NME I) | At the end of the course, students will able to:<br><br>**LO1.** To Know about fundamental things of Computer Using Windows Operating System<br>**LO2.** Learn about Programming Language and types of Software<br>**LO3.** To Know about Basis of E-Mail like Sending ,Forwarding, and Receiving Mails<br>**LO4.** Able to find Websites and various Search Engines<br>**LO5.** Learn about E-Marketing such as E-Cashed-Tacking Customer relationship Management |

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| BLE40 | English IV | At the end of the course, students will able to:<br><br>**LO1.** Understand the importance of education, courage and behavior.<br>**LO2.** Struggle and love of mothers, and to accept the ignorance, importance of divinity.<br>**LO3.** Understand that vengeance is not the end, presence of mind in due time, trust and importance of friendship.<br>**LO4.** Indian literature and contribution of Tagore.<br>**LO5.** Connects sentence using conjunctions, change active voice into passive voice.<br>**LO6.** Present a topic or issue, write a resume, will face interview. |
| BEN41 | British Literature IV | At the end of the course, students will able to:<br><br>**LO1.**Analyse the Various Comparison With Imaginative Power<br>**LO2.** To Know the Various aspects of Discrimination among the people<br>**LO3.** Identify the Various aspects of Imagine with Emotion<br>**LO4.** To Know the Value of Equality<br>**LO5.** Study the Concept of War and Relationship |
| BEN42 | History Of English Language | At the end of the course, students will able to:<br><br>**LO1.** Knows about the origin of language.<br>**LO2.** Learnt about the families of languages and its connection.<br>**LO3.** Understand the differences between British English and American English.<br>**LO4.** Gains knowledge on the changes of meaning and spelling in vocabularies.<br>**LO5.** Understand about the influence of foreign languages in English. |
| BAEN43 | History Of English Literature II | At the end of the course, students will able to:<br><br>**LO1.**The Believes of Morals and Conventional Belief in Alexander Pope period What would be contain his thoughts and Ideas to the reader<br>**LO2.** Thomas Hardy and present age Novel and Novelist Ideas and transition of Old Works compare Present Works<br>**LO3.** The Importance Lexical Grapy and Novel and its Significance<br>**LO4.** Wordsworth and its Works Contemporaries , Style other author's Works and theme thoughts to obtain in this Unit<br>**LO5.** Alfred Tennyson and his Contemporizes works and aesthetic Qualities. |
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| BSEN44 | Skill For Employment II(SBS II) | **LO1.**To Know the Importance of Polite behavior, Eye Contact and Body Language.<br>**LO2.** The Understanding of Interpersonal Communication and its Characteristics<br>**LO3.** The Analysis of In Communication Decoding ,Encoding Process it enhance Telephonic Conversation and its Messages<br>**LO4.** To Improve the Knowledge of Job Application and Resume Interview Skills and Prepare to Model Interview |
| BEN51 | British Literature IV | At the end of the course, students will able to:<br><br>**LO1.**Enhance the artistry and utility of the English Language through the study of British Literature.<br>**LO2.** Articulate the relations among culture, history and the text.<br>**LO3.** Analyze the various forms of English literature.<br>**LO4.** Increase the pleasure of reading through poetry and fiction.<br>**LO5.**Engage in close analysis of narrative and poetic language which applying technical analytical terms.<br>**LO6.**Fiction and Drama are verbal machines which transport the reader in space and time<br>**LO7.** Know about the important authors in British literature. |
| BEN52 | Language And Linguistics | At the end of the course, students will able to:<br><br>**LO1.** The origins of language and linguistic features.<br>**LO2.** The properties of language. Communication in inter personal and intra-personal with group talk.<br>**LO3.** Verbal and non-verbal communications, presentation skills and mechanics of English grammar.<br>**LO4.** The varieties of language and its impact on the society and culture. Preparing for an interview skills.<br>**LO5.** The understanding of phrases and sentences in English Grammar. |
| BEN53 | Introduction To Literary Criticism | At the end of the course, students will able to:<br><br>**LO1.** Understand the core features of classical criticism.<br>**LO2.** Understand the values of good poet.<br>**LO3.** Understand the features of good poetry.<br>**LO4.** Understand the new ideas of romanticism.<br>**LO5.** Understand the qualification of a good critic. |
| BEN54 | Indian Literature In Translation | At the end of the course, students will able to:<br><br>**LO1.** Understand the two-way movements of translating Indian texts to the world and Global texts into India.<br>**LO2.** Get Knowledge of basic concepts of Translation.<br>**LO3.**Identify various aspects of the life of Dalits.<br>**LO4.** Get knowledge the struggles of farmers and |

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| | | other working class.<br>**LO5.** Understand the various aspects of the Marathi stage that the writer had with respect and enjoyed. |
| BEEN55A | Journalism And Mass Communication (ELECTIVE I) | At the end of the course, students will able to:<br>**LO1.** Understand the need and role of communication.<br>**LO2.** Understand the key ideas of Journalism.<br>**LO3.** Understand the kinds of Print Media and their role in society.<br>**LO4.**Understand the features of writing to media and made them to write in their own.<br>**LO5.** Understand the kinds of electronic media and their part in society.<br>In brief. This paper made them to realize the role of journalism in society. |
| BSEN56 | Conversational English(SBS III) | At the end of the course, students will able to:<br><br>**LO1.** Understand the role of greetings and the need of practical usage.<br>**LO2.** Understand that how to express themselves in certain places and particular situation.<br>**LO3.** Understand that how to seek the data and how to convey it.<br>**LO4.** Understand that how approach the people to get the assistance from them.<br>**LO5.** Understand that how to invite and how to decline politely. |
| BEN61 | Shakespeare | At the end of the course, students will able to:<br><br>**LO1.** Understand about betrayal, revenge, reconciliation, devotion, guilt.<br>**LO2.** Know about the life of Royals verses countrymen.<br>**LO3.** Emphases the relationship between monster and human, importance of music.<br>**LO4.** Highlights Shakespeare's versatile efficiency in music, plot, setting, characters and characteristics.<br>**LO5.** Modification and basics of Shakespeare's humor and wit in his tragic plays. |
| BEN62 | British Literature V | At the end of the course, students will able to:<br><br>**LO 1.** To understand of Human and Inhuman Characters'.<br>**LO2.** The Ability of Writings Poems and to get Knowledge of Novels.<br>**LO3.** To understand the relationship between Sainthood and Martyrdom<br>**LO4.** To get knowledge of Beauties Nature and Surrender to them<br>**LO5.** The Ability of how to handle situations in the world. |
| | | At the end of the course, students will able to:<br><br>**LO1.** Understand the post colonial ideas and the pain of subaltern people through prescribed poetry. |

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| BEN63 | New Literatures In English | **LO2.** Understand the traditional aspects of Africans through the drama.<br>**LO3.** Understand the theme and the alienation of Latin American countries through various short stories.<br>**LO4.** Understand the role and impact of English on Non-European countries.<br>**LO5.** Understand the life style, ideology of African society through the fiction. |
| BEEN64A | Technology Mediated English(ELECTIVE II) | At the end of the course, students will able to:<br><br>**LO1.** Understand the importance of the internet and its related sources.<br>**LO2.** Understand the role of internet and the made them to work practically.<br>LO3. Understand to create news and its core features.<br>**LO4.** Understand the importance of the academic writings and made them to write project and so on.<br>**LO5.** Understand the features of online mode of learning. |
| BEEN65A | Copy Editing And Proof Reading(ELECTIVE III) | At the end of the course, students will able to:<br><br>**LO1.** Enhance the effective writing skills.<br>**LO2.** Learn how to organize a book or journal in consistently.<br>**LO3.** Learn how to make a correction in copy editing and proof reading.<br>**LO4.** Analyze the importance of footnote and endnotes.<br>**LO5.** The students would be able to acquaint themselves with technological advancement in Printing, electronic and web media. |
| BSEN66 | English Language Teaching(SBS IV) | At the end of the course, students will able to:<br><br>**LO1.** Understand the aspects of teaching English<br>**LO2.** Understand the strategies plans, techniques to teach English.<br>**LO3.** Understand the reading skills in poetry.<br>**LO4.** Understand the importance of Grammar and composition.<br>**LO5.** Understand that hoe present ideas. |
| BEA60 | Extension Activities | At the end of the course, students will able to:<br>**LO1.**Organises the blood camps**.**<br>**LO2.** Realizes their role in society.<br>**LO3.** Understand the moral values.<br>**LO4.** Understand the relationship between education and society.<br>**LO5.** Make awareness in the society. |
| | | At the end of the course, students will able to:<br><br>**LO1**. Provides critical insight into all areas of human experience like war, love, culture etc.<br>**LO2.** Identify the variety of forms and genre of |

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| MEN11 | Chaucer And Elizabethan Literature | poetry. Sonnet, Ballads, Dramatic Monologue etc<br>**LO3**. Gain the critical insight of the age of Chaucer.<br>**LO4.** Demonstrate the greater influence of Elizabethan Literature.<br>**LO5**. Enhance the knowledge of the writing style and subject of Chaucerian period. |
| MEN12 | American Literature | At the end of the course, students will able to:<br><br>**LO1.** Understand the core values of Americans through the poetry.<br>**LO2.** Understand the ideas of transcendentalism movement through the prose works.<br>**LO3.** Understand the various themes of American writers.<br>**LO4.** Understand the lives of subalterns in America specially black Americans.<br>**LO5.** Understand the new ideology of American fiction writing and their style. |
| MEN13 | Indian Literature In English | At the end of the course, students will able to:<br><br>**LO1.** Learnt about the origin of Indian literature.<br>**LO2.** Understand about the Indian society.<br>**LO3.** Gains knowledge about the society's reflection in the life of people.<br>**LO4.** Knows about the glory of Indian culture and their customs.<br>**LO5.** Encourage them to maintain the heritage of our Indian society through literature. |
| MEN14 | Modern English Grammar | At the end of the course, students will able to:<br><br>**LO1.** Understand the importance of Parts of speech<br>**LO2.** Use the art of word making in their sentence.<br>**LO3.** Know the proper usage of punctuation marks.<br>**LO4.** Identify literary devices that create Rhythm those that enhance meaning and those that intensify mood.<br>**LO5.** Identify the common errors in writings.. |
| MEN15C | Women's Writing (ELECTIVE) | At the end of the course, students will able to:<br><br>**LO1.** Knows the tragic life of poets and figurative language in their works.<br>LO2. Knows the role and position of women in ancient India and recognize the idea of Eco-feminism.<br>**LO3.** Analyses play for their structure and meanings using correct terminology.<br>**LO4.** Explores the nuances of personal relationships, complex and mingles themes insightfully.<br>**LO5.** Recognize the struggle of woman who has to do in order to prove her identity in male dominated society |

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| MEN21 | Restoration And Eighteenth Century Literature | At the end of the course, students will able to:<br><br>**LO1.** Analyses themes in the epic poem and able to interpret ideas of the poem.<br>**LO2.** Enhance the reader's perception on the proper study of mankind.<br>**LO3.** Knows the major philosophical ideas of the 18th century.<br>**LO4.** Analyses the concept of war and relationship.<br>**LO5.** Knows about the distinct literary characteristics of drama, emphasizing the social, cultural and philosophical implications in the plays The School for Scandal and The way of the world.<br>**LO6.** Explores the entire range of human experience through the work of Robinson Crusoe and Tom Jones. |
| MEN22 | The Romantic Revival Literature | At the end of the course, students will able to:<br><br>**LO1.** Learnt about the history of romantic literature.<br>**LO2.** Understand about the people's thought after the World Wars and Industrial revolution.<br>**LO3.** Encourage them to love the nature's beauty.<br>**LO4.** Helps them to understand the importance of preservation of nature.<br>**LO5.** Encouraging humans to concentrate on nature rather enjoying the artificial pleasures. |
| MEN23 | Language And Linguistics | At the end of the course, students will able to:<br><br>**LO1.** Enhance the basic knowledge of language and linguistics.<br>**LO2.** Understand the basic concepts in Morphology, syntax, Semantics and pragmatics.<br>**LO3.**Understand the Phonic sounds.<br>**LO4.** Learn about morphology, phrases sentences and discourse analyses.<br>**LO5.**Develop the knowledge and applications of linguistics. |
| MEN24 | Literary Criticism | At the end of the course, students will able to:<br>**LO1.** Understand the key ideas of classical criticism.<br>**LO2.** Understand the values of eastern criticism and realizes the aesthetic sense<br>**LO3.** Understand more clearly about the ideology and norms of romantic criticism.<br>**LO4.**Understand the ideas of modern critics.<br>**LO5.** Understand the scientific aspects of criticism. |

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| MEN25A | Indian Diaspora Literature (ELECTIVE) | At the end of the course, students will able to:<br>**LO1**. Compare and contrast of different cultures of the world.<br>**LO2**. Students can demonstrate critical thinking on cultural clashes and identity crisis.<br>**LO3**. get opportunity to study different tradition and culture which are not familiar with them.<br>**LO4**. Know about the distinct social cultural philosophical implications in the plays.<br>**LO5.** Explore the entire range of human experiences and deepens of life. |
| MHR20 | Human Rights | At the end of the course, students will able to:<br><br>**LO1.** Understand basic ideas of human rights.<br>**LO2.** Understand the organizations which are associated with human rights.<br>**LO3.** Understand the amendments and plans regard human rights.<br>**LO4.** Know different countries' human rights.<br>**LO5.** Recognize contemporary issues on human rights. |
| MEN31 | Shakespeare Studies | At the end of the course, students will able to:<br><br>**LO1.** Understand about the ideals and nuances of romance, allusions of Greek<br>Myth.<br>**LO2.** To know the correlation between identity and performances and the term of Oedipus complex.<br>**LO3.** Develops connection of parent and child relationship and analyses characters, motivations and decisions.<br>**LO4.** Enable the political power of Rome, Love between Antony and Cleopatra.<br>**LO5.** Analyze the theories of Structuralism, Psychoanalysis, Marxism, Feminism, Post colonialism in context to the theorists. |
| MEN32 | The Victorian Literature | At the end of the course, students will able to:<br><br>**LO1.** Analyze diverse methodological approaches in Critical Interpretation.<br>**LO2.** Understand the state of women, education, culture, political state of Victorian era.<br>**LO3.** Evaluate the impact of Industrialization in society as well as literature.<br>**LO4.** Develop critical thinking over truth, justice, love, brotherhood which are the major themes of the age.<br>**LO5.** Understand the chief motto of Victorian poets, "the excessive subjectivity of Romantics", at the same time the focus in individuality, originality and |

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| | | sincerity, which almost reflected in Victorian works of art. |
| MEN33 | Contemporary Literary Theory I | At the end of the course, students will able to:<br><br>**LO1.** Identify the approach Structuralism and evaluate the scope of structuralism.<br>**LO2.** Analyze different narrative techniques and use it while writing.<br>LO3. Deconstruct given texts and will differentiate Structuralism and Post structuralism.<br>**LO4.** Psychological terms, complexes in humans, Freudian and Lacanian Concepts of Psychology.<br>**LO5.** Critical terms of Feminism, Role of Feminism in Literature. |
| MEN34 | Research Methodology | At the end of the course, students will able to:<br>**LO1.** Able to know about How to Select a Topic<br>**LO2.** Understand the Mechanics of Writing<br>**LO3.** To Learn about Plagiarism<br>**LO4.**To Know about the Documentation<br>**LO5.** To Learn about Parenthetical Documentation and Sample References |
| MEN35B | Literature, Analysis, Approaches And Applications(ELECTIVE) | At the end of the course, students will able to:<br>**LO1.** Able to develop the reading and writing skills of the students for professional and academic purpose.<br>**LO2.** Learned the interpretation skills of the students to critically analyze and appreciate literary texts.<br>**LO3.** Learned about the methodologies of Practical criticism.<br>**LO4.** Able to understand how to review the books and editing works.<br>**LO5.** Able to learn the knowledge about technical writings. |
| MEN 41 | Twentieth Century Literature | At the end of the course, students will able to:<br><br>**LO1.** Patriotism, constant witty processes and sacrifices our physical and mental for good peaceful world.<br>**LO2.** Enhance of ancient Heritage especially cultivate Agriculture and Family works whatever would be.<br>**LO3.** Good Temper, Tolerance Sympathy Forster Believe Himself for good democracy. In addition Brotherhood, friendship, citizenship and community, compassion, courage, creativity, death, education faith, religion family, forgiveness, gratitude.<br>**LO4.** Absurdity and meaning of life, violence for peace explore in all over the world.<br>**LO5.** Understand upon Almighty, super natural super natural elements Tradition and conventional believes. Following Feminism, religious theme, How to solve individual as well as world hurdler. |
| | | At the end of the course, students will able to:<br>**LO1.** Get initiated into the subject, ELT by comprehending the history of the English Studies in India and the importance of English in the global. |

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| MEN42 | English Language Teaching | **LO2.** Understand the basics of teaching an L2 to L1 learners, such as the teaching of grammar, Vocabulary, communicative skills and composition writing.<br>**LO3.** Appreciate important concepts, themes and traditions through the study of influential classical texts from the ancient world and apply them to the present contexts.<br>**LO4.** Comprehend new and newer methodologies, techniques and strategies of teaching L2.<br>**LO5.** Know how languages function socially and culturally to be able to teach the language effectively. |
| MEN43 | Contemporary Literary Theory II | At the end of the course, students will able to:<br><br>**LO1.** Analyze the concepts of Capitalism in Society, influence of Marxism in Society and in Literature.<br>**LO2.** Identify, evaluate and differentiate Old and New Historicism, its elements in Literary Texts.<br>**LO3.** A glimpse of Colonialism, and have known Post Colonial works and writers, compare Nature and Female, and evaluate Culture and Nature.<br>**LO4.** Distinguish Modernism and Postmodernism and the broad movement and its Precursors.<br>**LO5.** Provides an Overview of Development in Literary Theory after 1950. |
| MEN44 | Research Project | At the end of the course, students will able to:<br><br>**LO1.** Learn to consider multiple perspectives, and understand the complexity of human nature.<br>**LO2.** Help them to give and accept peer criticism.<br>**LO3.** Build critical thinking, communication and writing skills.<br>**LO4.** Learn about Proof reading and editing.<br>**LO5.** Make more creative ideas in literature. |
| MEN45A | CHILDREN'S LITERATURE | **LO1.** To Know about the Children's Imagination and Fantasy<br>**LO2.** Analyses the Knowledge of Moral Values for the society<br>**LO3.** Identify the theme of Spiritual and Philosophy<br>**LO4.** Engage in close analysis of various morals with Fantasy stories<br>**LO5.** To Know the Knowledge of Imaginative World |

## DEPARTMENT OF MATHEMATICS

**Programme Outcomes of the Department**

**B.Sc., Mathematics**

**PO-1:** The mathematics UG students after completion of the course will gain a thorough knowledge in preparing competitive examinations like TNPSC, UPSC, BSRB etc.

**PO-2:** The UG curriculum offers need based computer courses which enable the students to solve computer oriented numerical problem.

**PO-3:** Abstract courses and mathematical structures included in the UG program enable the students to prepare themselves for higher education leading to M.Sc., MCA, MBA degree courses.

**M.Sc., Mathematics**

**PO-1:** After completing 2 years of M.Sc. programme, students are gaining through knowledge in pure and applied mathematics.

**PO-2:** The mathematical curriculum offers a number of practical exposures which equips the students to face modern challenges in mathematics.

**PO-3:** The PG students after the completion of the course will gain a thorough knowledge in preparing themselves for the NET, SET and GATE examinations.

**M.Phil., Mathematics**

**PO-1:** This course improves the standards of research.

**PO-2:** After completing M.Phil. programme, students are gaining through research knowledge in pure and applied mathematics.

**PO-3:** The mathematical curriculum offers a number of practical exposures which equips the students to face the research challenges in mathematics.

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**Progrmme Specific Outcomesof the Department**

**B.Sc., Mathematics**

**PSO-1:** Students are able to understand and view mathematical structures.

**PSO-2:** Students will learn numerical aptitude applying both qualitative and quantitative knowledge for their future carrier.

**PSO-3:** The elective papers like Operations Research, Graph theory, Fuzzy Mathematics imparts through knowledge in fuzzy mathematics which is very useful for the students to do their research programme in future.

**M.Sc., Mathematics**

**PSO-1:** Students are able to understanding of the fundamental axioms in mathematics and capability of developing ideas based on them.

**PSO-2:** Prepare and motivate students for research studies in mathematics and related fields.

**PSO-3:** Elective papers in PG programme enable the students to face the real life applications.

**M.Phil., Mathematics**

**PSO-1:** Students will be able to publish research articles in reputed journals.

**PSO-2:** This course introduce the students to the new concept and their applications in real life situations

**PSO-3:** Provide opportunities to research students for communication of mathematical topics to graduate students.

**Course Outcomes**

| Semester I | | |
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| Course Code | Course Name | Course Outcomes |
| BMA11 | Algebra | In this Course students are exposed to topics like Theory of Equations, Summation of Series, Matrices, Continued Fractions and Elementary Number Theory. The stress is on the development of problem solving skills. |
| BMA12 | Trigonometry | This course is a fundamental one for many courses of this Degree Programme. This covers topics on the expansions of trigonometric functions, hyperbolic functions, inverse circular, inverse hyperbolic functions and it aims to develop computational skills. |
| Semester II | | |
| BMA21 | Calculus | The course introduces students to the fundamental principles, concepts and knowledge in the areas of Differential and Integral Calculus. This prepares the students to apply these fundamental concepts and working knowledge to other courses. |
| BMA22 | Analytical Geometry of Three Dimensions | The course introduces students to the fundamental knowledge in the areas of Analytical Solid like Sphere, Planes Straight lines, and Cylinder. |
| Semester III | | |
| BMA31 | Differential Equations | This course aims to provide logical skills in the formation of differential equations, to expose to different techniques of finding solutions to these equations and in addition stress is laid on the application of these equations in geometrical and physical problems. |
| Semester IV | | |
| BMA41 | Vector Analysis and Fourier Analysis | This course covers the topics in vector and tensor calculus which are essential tools of modern applied mathematics. To develop deep understanding of key concepts followed by problems of applied nature. The portion on Fourier analysis will lead to post-graduate studies and research in pure as well as applied mathematics. |
| Semester V | | |
| BMA51 | Abstract Analysis | This course aims to impart emphasis on concepts and technology of the groups and rings as these algebraic structures have applications in Mathematical Physics, Mathematical Chemistry and Computer Science. |
| BMA52 | Real Analysis I | To understand various limiting behavior of sequences and series. To explore the various limiting processes viz.continuity, uniform continuity, differentiability and integrability and to enhance the mathematical maturity and to work comfortably with concepts. |
| BMA53 | Complex Analysis I | This course provides a modern treatment of concepts and techniques of complex function theory.<br>To gain knowledge about the complex number system, the complex function and complex integration. |

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| BMA54 | Statics | This course introduces the students the basic concepts of forces, moments, couple, friction law virtual displacement and work, catenary and the centre of gravity and kinematics. This course stresses the development of skills in formation of suitable mathematical models and problems solving techniques. |
| BMA55 | Dynamics | This course aims to provide models for some real life problems. This covers topics like Simple Harmonic Motion, Projectiles, Central Orbits and Moment of Inertia. Stress is on the mathematical formulation of the physics aspects of the problems and it develops logical deduction and interpretation. |
| Semester VI | | |
| BMA61 | Linear Algebra | To study the Algebraic structures of Vector Spaces and Linear Transformation. |
| BMA62 | Real Analysis II | To understand Integration process of Riemann. To develop the understanding of point wise and uniform convergence of sequence and series of functions. To enhance the mathematical maturity and to work comfortably with concepts. |
| BMA63 | Complex Analysis II | To gain knowledge about complex Integration and series. This course provides methods to solve problems in pure as well as in applied mathematics. |
| BMA64 | C-Language | To develop programming skill in the Computer Language C |
| Elective(Semester V & VI) | | |
| BEMA56A | Graph Theory | To study and develop the concepts of graphs, subgraphs, trees connectivity, Eulerian and Hamiltonian graphs, matching colorings of graphs and planar graphs. |
| BEMA65A | Operation Research | To develop computational skill and logical thinking in formulating industry oriented problems as a mathematical problem and finding solutions to these problems. |
| BEMA66B | Fuzzy Mathematics | To know the fundamentals of fuzzy Algebra. To know the basic definitions of fuzzy theory. To know the applications of fuzzy Technology. |
| Skill Based Subjects (Semester III, IV, V & VI) | | |
| BSMA33 | Linear Programming | To improve the skills of solving very common problems which we come across in various fields like transportation, games and industries with machines. |

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| BSMA43<br>BSMA57<br>BSMA67 | Mathematics for Competitive Examinations I, II & III | To introduce concepts of mathematics with emphasis on analytical ability and computational skill needed in competitive examinations. |
| Allied (Semester I, II, III & IV) | | |
| BAMA13A<br>BAMA23A | Numerical Methods I & II | This course will cover basic methods for finding the Finite differences, Central differences, Inverse interpolation, Summation of series, Interpolation for equal & unequal intervals, Solutions of simultaneous equations, Important principles, Method and Processes to get numerical results, Reliability of numerical result and techniques of Numerical Differentiation and Numerical Integration. It also deals with solution of difference equations, Algebraic and Transcendental equations and Numerical solution of Ordinary differential equations of first order. |
| BAMA13B<br>BAMA23B | Mathematical Statistics I & II | To apply Statistics Methods for Mathematical Problems. |
| Semester I | | |
| Course Code | Course Name | Course Outcomes |
| MMA11 | Algebra-I | To introduce the concepts and to develop working knowledge on class equation, finite abelian groups, linear transformations, real quadratic forms. |
| MMA12 | Real Analysis-I | To work comfortably with functions of bounded variation, Riemann - Stieltjes Integration, convergence of infinite series, infinite product and uniform convergence and its interplay between various limiting operations. |
| MMA13 | Ordinary Differential Equations | To develop strong background on finding solutions to linear differential equations with constant and variable coefficients and also with singular points, to study existence and uniqueness of the solutions of first order differential equations. |
| MMA14 | Differential Geometry | This course introduces space curves and their intrinsic properties of a surface and geodesics. Further the non-intrinsic properties of surfaces are explored. |
| Semester-II | | |
| MMA21 | Algebra-II | To study field extension, roots of polynomials, Galois Theory, finite fields, division rings, solvability by radicals and to develop computational skill in abstract algebra. |
| MMA22 | Real Analysis-II | To introduce measure on the real line, Lebesgue measurability and integrability, Fourier Series and Integrals, in-depth study in multivariable calculus. |

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| MMA23 | Partial Differential Equations | The aim of the course is to introduce to the students the various types of partial differential equations and how to solve these equations. |
| MMA24 | Mechanics | To study mechanical systems under generalized coordinate systems, virtual work, energy and momentum, to study mechanics developed by Newton, Langrange, Hamilton Jacobi and Theory of Relativity due to Einstein. |
| | Semester-III | |
| MMA31 | Complex Analysis-I | To Study Cauchy integral formula, local properties of analytic functions, general form of Cauchy's theorem and evaluation of definite integral and harmonic functions. |
| MMA32 | Topology | To study topological spaces, continuous functions, connectedness, compactness, countability and separation axioms. |
| MMA33 | Operation Research | This course aims to introduce decision theory, PERT, CPM, deterministic and probabilistic inventory systems, queues, replacement and maintenance problems. |
| MMA34 | Probability Theory | To introduce axiomatic approach to probability theory, to study some statistical characteristics, discrete and continuous distribution functions and their properties, characteristic function and basic limit theorems of probability. |
| | Semester-IV | |
| MMA41 | Complex Analysis-II | To study Riemann Theta Function and normal families, Riemann mapping theorem, Conformal mapping of polygons, harmonic functions, elliptic functions and Weierstrass Theory of analytic continuation. |
| MMA42 | Functional Analysis | To study the details of Banach and Hilbert Spaces and to introduce Banach algebras. |
| MMA43 | Mathematical Statistics | This course introduces sampling theory, significance tests ,estimation, testing of hypotheses, ANOVA and sequential analysis with rigorous mathematical treatment. |
| MMA44 | Difference Equations | To introduce the process of discretization, Discrete version of Differential Equations, Discrete oscillation and the asymptotic behaviour of solutions of certain class of difference equations for linear cases only. Solution of difference equations using z-transforms is stressed. |
| | Elective (Semester-I, II, III & IV) | |
| MMA15C | Graph Theory | To study and develop the concepts of graphs, subgraphs, trees, connectivity, Euler tours, Hamilton cycles, matching, coloring of graphs, independent sets, cliques, vertex coloring, and planar graphs. |
| MMA25B | Calculus Of Variations and Integral | The aim of the course is to introduce to the students the concept of calculus of variation and its applications and second to introduce various types of integral equations and how to solve these equations. |

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| | Equations | |
| MMA35A | Tensor Analysis And Relativity Theory | The course aims to introduce vector algebra and vector calculus and special relativity and relativistic kinematics, dynamics and accelerated systems. |
| MMA45A | Number Theory And Cryptography | This course aims to give elementary ideas from number theory which will have applications in cryptology. |

## DEPARTMENT OF MICROBIOLOGY

### I Programme Outcomes

| Programme Outcomes of the Department |
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| Our curriculum is designed to educate our majors in a variety of important microbiological disciplines, as well as to promote and develop skills and competencies that have enduring value beyond the classroom. These include:<br>**PO1.**Apply the knowledge of life sciences and analysis to the solution of difficult scientific problems.<br>**PO2.Investigation and scientific problem analysis:** Identify, formulate and analyze complex scientific problems reaching substantiated conclusions using principles of applied sciences and biostatistics. Use research based knowledge and research methods including design of experiments, analysis and interpretation of data and getting of information to provide valid conclusions.<br>**PO3. Scientific Method:** Hypothesis generation and testing, including the development of theoretical and practical skills in the design and execution of experiments.<br>**PO4. Scientific Communication**: the development and execution of oral and writing skills necessary for effective communication of experimental results, the ability to think critically regarding a discipline topic, and the conveyance of scientific principles to audiences of both scientists and non-scientists.<br>**PO5. Modern Techniques Usage:** Create, select and apply appropriate techniques, resources and modern science and genetics techniques including prediction and modeling to complex scientific activities with an understanding of the limitations.<br>**PO6.Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the scientific practice.<br>**PO7.Individual and Team work:** Functions effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.<br>**PO8.Communication:** Communicate effectively on complex activities with the scientific community and with the society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give receive clear instructions.<br>**PO9.Project management:** Demonstrate knowledge understanding of the scientific and management principles and apply these to one's own work, as a member and leader in a team, to manage project and in multidisciplinary environments.<br>**PO10.Life –long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. |

**I.Programme Specific Outcomes**

| Programme | Programme Specific Outcomes |
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| **U-26 B.SC.,MICROBIOLOGY** | A graduate with a B.Sc., Microbiology will have the ability to :<br>**PSO1.** Graduates will acquire knowledge and leadership skills for a successful career<br>**PSO2.** They will be able to learn independently and develop critical thinking, as well as to analyze and solve biology based problem<br>**PSO3.** They will realize the application oriented aspects of Microbes in various biological disciplines.<br>**PSO4.** They will acquire practical skills-plan & execute experimental techniques independently, and they can able to analyze and interopreted data.<br>**PSO5.**They get ability to communicate effectively & able to understand ethical responsibility |
| **P10 - M.SC., APPLIED MICROBIOLOGY** | A graduate with a B.Sc., Microbiology will have the ability to :<br>**PSO1.** The graduates will acquire necessary theoretical and practical experience in all divisions of microbiology and to become an effective professional<br>**PSO2.** They will get knowledge about to identify research and solve microbiology related problems related to different types of microbial derived diseases.<br>**PSO3.** They will acquire practical skills-plan & execute experimental techniques independently, and they can able to analyze and interpret data.<br>**PSO4.** They will realize the application oriented aspects of Micro organisms in various biological disciplines.<br>**PSO5.** They get ability to communicate and function effectively in multi-disciplinary team related to the microbiology |
| **M-11 M.PHIL.,MICROBIOLOGY** | A Research with a M.Phil., in Microbiology ill have the ability to<br>**PSO1.**Identify, Analyze and synthesize scholarly literature relating to the field of Microbiology.<br>**PSO2.**Write about and orally communicate scientific problems about Microbiology.<br>**PSO3.**Understand how technological advances impact society and the social, legal, ethical , and cultural ramifications of microbiology and their usage. |

**III A Learning Outcomes – B.Sc., Microbiology**

| Course Code | Course name | Learning Outcome |
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| **U26 - BMB11** | **FUNDAMENTALS OF MICROIOLOGY** | After completing this course, students will be able to:<br>**LO1**.The students will gain basic knowledge about microbiology.<br>**LO2**.To Acquire knowledge about starting from history.<br>**LO3**.This Subject will provide a complete picture about the taxonomical classification of microbes. |
| **U26 - BES10** | **ENVIRONMENTAL SCIENCES** | Students who successfully complete a Environmental Science and Sustainability are expected to be able to:<br>**LO1**.Understand how interactions between organisms and their environments drive the dynamics of individuals, populations, communities and ecosystems.<br>**LO2**.Recognize the ecological basis for regional and global environmental issues.<br>**LO3**.Understand the historical and social context of environmental science thought and research. The resolution of ethical, social, and environmental issues in human affairs.<br>**LO4**.Demonstrate ethical conduct in all scientific activities and environmental research.<br>**LO5**.Integrate facts, concepts, and methods from multiple disciplines and apply to environmental problems. |
| **U26 - BMB21** | **MICROBIAL PHYSIOLOGY** | After completing this course, students will be able to:<br>**LO1.**To inculcates Knowledge in cell division, functions, and nutritional types of microorganisms.<br>**LO2.**The students are capable of descending the growth characteristics of the microorganism's capable of growing under unusual environmental condition of temperature, oxygen and water activity.<br>**LO3**.Differentiating concepts of aerobic and anaerobic respirations and how these are manifested in the form of different metabolic pathways in microorganisms.<br>**LO4**.Describing the growth characteristics of microorganisms which require different nutrient for growth. |
| **U26 - BPMB22** | **SUBJECTS COVERING CORE PAPER 1 & 2** | On successful completion of this subject the students will gain sound knowledge about<br>**LO1.**To inculcates knowledge in basic laboratory techniques and knowledge about cultivation of bacteria, fungi and virus.<br>**LO2.**Are able to perform basic experiments to grow and study of microorganism's in the lab.<br>**LO3.**Staining methods to differentiate the types of microorganisms.<br>**LO4.**To handling the isolate and collect the pure culture technique.<br>**LO5.**To study and support the knowledge organisms confirm through by biochemical test. |

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| | | **LO6**.After completion these above methods, antimicrobial susceptibility activity were determined. |
| **U26 - BGA20** | **VALUE EDUCATION** | The very purpose and main function of education:<br>**LO1.**The development of an all round and well-balanced personality of the students<br>**LO2.**To develops all dimensions of the human intellect so that our children can help make our nation more democratic, cohesive, socially responsible, culturally rich and intellectually competitive nation.<br>**LO3**.Full development of child's personality in its physical, mental, emotional and spiritual aspects. |
| **U26 - BMB31** | **IMMUNOLOGY** | After completing this course, students will be able to:<br>**LO1**.Gain all rounded knowledge of immunology and Immunohaematology.<br>**LO2**.Identify different types of Blood Groups and the mechanism of blood transfusion.<br>**LO3**.To understands the host-parasite relationship.<br>**LO5**.Able to distinguish various cell types involved in immune responses and associated functions.<br>**LO6**.Compare and contrast the innate versus adoptive immune systems.<br>**LO7**.Analyse different structure and functions of immunoglobulin.<br>**LO8**.Able to distinguish and characterize vaccines and immunization.<br>**LO9**.Understand the role of lymphokines and cytokines in immune response.<br>**LO10**.Analyse and identify different techniques used to identify antigen antibody interactions.<br>**LO11**.Provide an overview of the interaction between the immune system and pathogens. |
| **U26 - BAMB32** | **HUMAN ANATOMY AND PHYSIOLOGY** | Up on completing this course the student should be able to :<br>**LO1.**Explain the basic knowledge of Human anatomy and physiology.<br>**LO2.**Working patterns of different organs of respiratory system and functions of sensory organs.<br>**LO3.**Identify different organs associated with the Gastrointestinal system and skeletal system.<br>**LO4.**Compare and construct different organs and functions of central nervous system and peripheral nervous system.<br>**LO5.**Study about the parts of the circulatory system and reproductive organs of human. |
| **U15 - BABC32** | **MICROBIOLOGY I (ALLIED)** | After completing this course, students will be able to:<br>**LO1** To learn about the history of microbiology and some important discoveries.<br>**LO2** To get knowledge about anatomy of prokaryotes and eukaryotes and their functions.<br>**LO3** To learn about the classification of living organisms and cell theory.<br>**LO4** Learn about different types of strains and dyes were used in microbiology.<br>**LO5** To get knowledge on antibiotics and microbial |

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| | | resistance. |
| **U26 - BSMB33** | **HAEMATOLOGY AND BLOOD BANKING** | After Completing this course students will be able to :<br>**LO1.**Students acquired knowledge about collection and processing of blood specimen.<br>**LO2.**Understanding structure and functions of blood cells.<br>**LO3.**Acquired knowledge to differentiate abnormal RBC & WBC.<br>**LO4.**Obtain skill about prepare manual cell counts and perform manual cell counts.<br>**LO5.**Learning about processes of automated instruments to determine cell counts, red cell parameters and leucocytes distribution. |
| **U26 - BMB41** | **MICROBIAL GENETICS** | After Completing this course students will be able to :<br>**LO1.**Understand the concept of structure and organization of DNA and RNA.<br>**LO2.**Compare and contrast the experimental evidence of DNA and RNA as genetic material.<br>**LO3.**Describe different types of plasmid and its function.<br>**LO4.**Developed an understanding how replication of DNA takes place in prokaryotes.<br>**LO5.**Identify different types of gene transfer mechanisms.<br>**LO6.**Analyse oncogenes and cancer.<br>**LO7.**Histone the number of retroviruses causing tumour.<br>**LO8.**Developed knowledge of RNA and protein synthesis in prokaryotes and eukaryotes.<br>**LO9.**Acquired detailed knowledge of mutation and its types.<br>**LO10**.Compare and contrast different mechanisms in DNA repair. |
| **U26 - BAMB42** | **BIO-STATISTICS** | In this course we'll learn how to effectively collect data, describe data, and use data to make inferences and conclusions.<br>**LO1.**Recognize the importance of data collection and its role in determining scope of inference.<br>**LO2.**Demonstrate a solid understanding of interval estimation and hypothesis testing.<br>**LO3.**Choose and apply appropriate statistical methods for analyzing one or two variables.<br>**LO4.**To perform descriptive and inferential data analysis for one or two variables.<br>**LO5.**Apply descriptive techniques commonly used to summarize public health data. |
| **U15 - BABC42** | **MICROBIOLOGY II (ALLIED )** | To Complete read the microbiology subject :<br>**LO1.**Students get good knowledge about different types of soil and its formation.<br>**LO2.**Able to describe the role of microorganisms in the production of food its spoilage.<br>**LO3.**Able to identify the role of different microorganisms and its pathogenicity and laboratory diagnosis. |

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| | | **LO4.**Compare and contrast antigen, antibody reaction.<br>**LO5.**Have developed the detailed knowledge of gene and cloning techniques.<br>**LO6.**To identify the source of airborne organisms and its distribution. |
| **U26 - BSMB43** | **VERMITECH** | To Complete read the vermitech subject :<br>**LO1.**The biology of structure, functions of earthworms and species.<br>**LO2.**Degrade the organic waste, and form composting and other products.<br>**LO3.**Learning about the vermicompost and its application in modern agriculture.<br>**LO4.**Students will own knowledge and role of Beneficial soil microorganisms.<br>**LO5.**Awareness of problems related to the decrease of biological feretility of soil. |
| **U26 - BPMB44** | **SUBJECTS COVERING CORE PAPER 3 & 4** | After completing this course students ill be able to :<br>**LO1.**To perform ABO blood group typing determination of Rh-factor.<br>**LO2.**To perform double immunodiffusion by using ouchterlonyy method.<br>**LO3.**Perform different types of agglutination reactions:Slide and Tube methods- widal.<br>**LO4.**Perform various types of bacteria latex agglutination :RA,ASLO,B-HCG.<br>**LO5.**Enumeration of different blood cell counts. |
| **U26 - BPMB45** | **HUMAN ANATOMY AND PHYSIOLOGY(Practical)** | Upon completing this course the student should be able to :<br>**LO1.**Understand the scientific bases of tissue preparation and able to apply that understanding to the practice of subjects, such as making films, spread and counting.<br>**LO2.**Interprete a complete blood picture report.<br>**LO3.**Understand an electrocardiograph(ECG) machine records your heart's rhytham on to paper through sticky electrodes which are placed on your chest, arms and legs.<br>**LO4.**Event monitoring is used to record your heart beat when you experience symptoms such as dizziness,blockouts, chest pain, or palpitations.<br>**LO5.**Recognize normal and abnormal urine analysis test results and correlate the data with appropriate pathological conditions to accurately advice health care provide us. |
| **U15 - BPBC 46** | **MICROBIOLOGY PRACTICALS** | After complete the practical hours learn to<br>**LO1.**knowledge on handling of microbes<br>**LO2.** To learn about staining techniques<br>**LO3.** To understood measurement of microbes<br>**LO4.** To learn about basic techniques like media preparations<br>**LO4.** To learn about basic techniques like media preparations<br>**LO5.** To know about cultivation of microbes. |

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| **U26 - BMB51** | **MOLECULAR BIOLOGY AND GENETIC ENGINEERING** | After completing this course, students will be able to:<br>**LO1**.By the conclusions of this course the students have understand genome organization of model organisms.<br>**LO2.**Developed a fairly good knowledge about gene transfer mechanisms.<br>**LO3.**Are able to describe different types of extra chromosomal elements or the plasmids. The nature of the transposable elements in prokaryotic and eukaryotic.<br>**LO4.**The students should have a sound knowledge about rDNA technology used in microbiological research.<br>**LO5.**.Hands on skills of isolation of plasmid DNA from bacterial cells and its visualization by performing agarose gel electrophoresis. |
| **U26 - BMB52** | **MEDICAL BACTERIOLOGY** | After successful completion of this course the students will be get knowledge to<br>**LO1.** To understand and analysis the vital role of microorganisms in diseases with respect to different parts of the body.<br>**LO2.** Get equipped with methods of specimen collections and processing.<br>**LO3.** Know how to occur transmission of infectious diseases, pathogenicity, lab diagnosis, treatment of diseases.<br>**LO4.** It provides to develop informatics and diagnostics skills including the use interpretations of lab test in the diagnosis of infectious diseases.<br>**LO5.** The course provides learning opportunities in the basic principle of medical bacteriology and infectious diseases. |
| **U26 - BMB53** | **MEDICAL VIROLOGY, MYCOLOGY AND PARASITOLOGY** | The students is excepted on completion of the course to be able to :<br>**LO1**.Explain medically viruses including their morphology, pathogenesis laboratory diagnosis and diseases preventive measures.<br>**LO2**.Identify the arthropod borne and rodent borne virus diseases, different diagnostic techniques and also its various methods involved in infection control.<br>**LO3**.To understands the nature of viruses, including their structure, replication and classification.<br>**LO4**.Arrange the steps of viral infection by bacteriophage is correct order, specifically either a temperature or lytic phages.<br>**LO5**.Students can classify medically important fungal organism on the basis of reproduction, taxonomy, macroscopic and microscopic.<br>**LO6**.Students can defined the fungal infections including once caused by opportunistic fungi, superficial, cutaneous and systemic.<br>**LO7**.Understanding of the life histories various group of parasites and discriminate various symptoms of human parasitic diseases. |

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| **U26 - BEMB54** | **HERBAL TECHNOLOGY** | At the end of the course students will be able to<br>**LO1:** Explain method for identification and authentication of herbal drugs<br>**LO2:** Explain methods for selection and processing of herbal drugs as<br>raw materials for herbal drug preparation<br>**LO3:** Explain methods of good agricultural practices for medicinal plants like organic farming and using biopesticides for pest control<br>**LO4:** Explain basic principles of traditional medicinal systems with method of preparation and standardization of ayurvedic formulations<br>**LO5:** Describe benefits of various plants as nutraceuticals in ailments and also the herb-food interaction of various plant drugs<br>**LO6:** Describe about herbs or natural origin drugs as raw materials for preparation of cosmetics, conventional herbal formulation and novel dosage forms like phytosomes |
| **U26 - BSMB55** | **MUSHROOM CULTURE TECHNIQUES** | At the end of the course students will be able to<br>**LO1**.Distinguish between edible and non-edible mushroom<br>**LO2.**Compare different harvesting techniques used for each of three different types of edible fungi.<br>**LO3.**Analyse preparation of pure culture and spawn cultivation of oyster and paddy straw mushroom.<br>**LO4.**Classify different pests and diseases of edible mushrooms.<br>**LO5.**Develop guidelines for the economics of mushroom cultivation. |
| **U26 - BMB61** | **FOOD MICROBIOLOGY** | This course is designed to give students an understanding of the role of microorganisms in food:<br>**LO1.**Relation between to promote the growth factor of microorganisms<br>**LO2.**Learned to principles and preservation of food material.<br>**LO3.**The relation of microorganisms to food spoilage, food borne illness, and intoxication;<br>**LO4.** General food processing and quality control, frame the work of FDA laws. |
| **U26 - BMB62** | **SOIL, AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY** | After completing this course, students will be able to:<br>**LO1.**Inculcate knowledge in role of microorganism's in ecosystem and impact created by microbes in agricultural development.<br>**LO2.**Students learns about approaches used in agricultural to control diseases in plant.<br>**LO3**.Learn about pathogenic interactions with plant.<br>**LO4**.To acquires knowledge about microbial biocontrol agents.<br>**LO5**.To inculcates knowledge in sewage treatment. |
| **U26 - BMB63** | **INDUSTRIAL AND PHARMACEUTICAL MICROIOLOGY** | This course is designed to give students an understanding of the role<br>**LO1.**Get knowledge about theoretical and practical understanding of industrial microbiology and |

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| | | pharmaceutical microbiology<br>**LO2.**Know about design, types of fermentors factors affecting growth and production.<br>**LO3.**Understand about strain improvement formulating media and sterilization process.<br>**LO4.**Get information about microbes involved in various vital compound synthesizing mechanisms.<br>**LO5.**Analysis about different types and principles of down streaming process. |
| **U26 - BEMB64** | **BIOINOCULANTS TECHNOLOGY** | After completing this course, students will be able to :<br>**LO1**:Biofertilizers are live products (or latent cells of Microbes) and require care in storage, transport, application and maintaining field conditions.<br>**LO2.**The use of biofertilizers is being emphasized along its chemical fertilizers and organic manures.<br>**LO3.**Ability to distinguish the types of biofertilizers.<br>**LO4.**Development of integrated management for best results uses both nitrogenous and phosphatic biofertilizers. |
| **U26 - BEMB65** | **FOOD ANALYSIS AND QUALITY CONTROL** | After completing this course, students will be able to:<br>**LO1.**Understand different sampling techniques employed in analysis of food.<br>**LO2.**Apply modern instrumental methods to analyse chemical and physical properties of food.<br>**LO3.**Analyse physical and chemical components of food.<br>**LO4.**Apply various Biological methods to analyse the food.<br>**LO5.**Understand how to validate a method to monitor food pathogens by various techniques.<br>**LO6.**Compare and contrast different sensory assessment of food quality.<br>**LO7.**Analyse different food products and its quality.<br>**LO8.**Understand the concept of food quality management.<br>**LO9.**Familiarize about the testing methods of adulteration.<br>**LO10**.Explains the national and international food laws. |
| **U26 - BSMB66** | **BIOINSTRUMENTS** | The mainly learn of this course is to<br>**LO1**.To make students understand the Identification, classification, and working principle of various Biomedical Instruments..<br>**LO2**.To makes students understand the concept of non linear control, Internal Model Control and Optimal Control. .<br>**LO3**.Identify a physiological signal sensing problem and generate a practical bioinstrumentation solution.<br>**LO4.**The basic concept of qualitative and quantitative analysis bioinstruments. |
| **U26 - BPMB67** | **SUBJECTS COVERING CORE PAPER 5,6 &7** | After completing this course, students will be able to:<br>**LO1.**Analysis the techniques involved in collection, transport and direct staining examination of clinical specimens |

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| | | **LO2.**Get knowledge about preparation of different media and used for cultivation of pathogenic microbes.<br>**LO3.** Known how to isolate and characterized pathogenic bacteria from clinical specimens based on their biochemical reactions.<br>**LO4.** Analysis and characterization of cyst, ova, trophozite and worm of parasite from stool specimens by floatation and sedimentation techniques.<br>**LO5.** Understand about morphological characters of clinical fungi by KOH and LPCB methods. |
| **U26 - BPMB68** | **SUBJECTS COVERING CORE PAPER 8 & 9** | After completing this course, students will be able to:<br>**LO1.**Illustrate the role of coliform bacteria in water analysis by MPN technique.<br>**LO2.**Cultivate and enumerate microorganisms from various food sample.<br>**LO3.**Analyse the quality of milk sample by MBRT technique.<br>**LO4.**Analyse the microorganisms from air settle.<br>**LO5.** Isolation, identification, and enumeration of the most common microorganisms found in specific food products. |

**III B Learning Outcomes – M.Sc., Applied Microbiology**

| Course Code | Course name | Learning Outcome |
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| **P10 - MAM11** | **GENERAL MICROBIOLOGY AND MICROBIAL PHYSIOLOGY** | Acquire knowledge about evolution and its recent development in medicine<br>**LO1.**Understand the basic microbial structure, characteristics of prokaryotes and eukaryotes.<br>**LO2.**Understood the various culture media and their applications.<br>**LO3.**To understand the microbial techniques for isolation of pure cultures of bacteria, fungi and algae.<br>**LO4.**Know the various physical and chemical growth reuirements of bacteria and get equipped with various method of bacterial growth measurement. |
| **P10 - MAM12** | **FOOD, AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY** | After completing this course, students will be able to:<br>**LO1.**Developed a clear understanding the role of microorganisms in soil, in association with plants and thus in the field of agriculture.<br>**LO2.**Are able to describe the role of microorganism's in food production its spoilage, including their role in homemade fermented foods.<br>**LO3**.Developed experimental skills for testing the milk and different foods for that presence of microorganisms.<br>**LO4.** Are able to identify the role of microorganism's in the causation of diseases and how to protect against food borne |

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| | | pathogens. |
| **P10 - MAM13** | **IMMUNOTECHNOLOGY** | After completing this course, students will be able to:<br>**LO1.** Identify different types of Blood Groups, cells and the blood transfusion mechanism.<br>**LO2.** Able to distinguish various cell types involved in immune responses and associated functions.<br>**LO3.**Provide an overview of the interaction between the immune system and pathogens.<br>**LO4**.Compare and contrast the innate versus adoptive immune systems.<br>**LO5.**Understand about different structure, functions of immunoglobulin and the role of lymphokines and cytokines in immune response.<br>**LO6.**Get knowledge about different techniques used to identify antigen antibody interactions. |
| **P10 - MAM14** | **HUMAN ANATOMY AND PHYSIOLOGY** | To inculcate knowledge in basic biology like cell divisions, functions and human physiology.<br>**LO1.** To inculcate sound knowledge in different organs of respiratory system and special sensory system.<br>**LO2.**To acquires knowledge on Gastrointestinal system and lower respiratory system.<br>**LO3.**To learns about MS system and nervous system.<br>**LO4**.Learn about structure and functions of different organs. |
| **P10 - MAM15B** | **FUNDAMENTALS IN BIOLOGY** | A proficiency in knowledge of essential concepts in biology as outlined<br>**LO1.**Biology is the study of organic life, from the structure and function of biomolecules through the complex evolutionary and regulatory processes of cells, organisms, populations, communities, and ecosystems.<br>**LO2.** Topics to be covered include the chemicals of life, macromolecules, the role of nucleic acids in genetic information transfer, protein synthesis, lipid membranes and the structure of cells, storage and utilization of energy,<br>meiosis and mitosis.<br>**LO3.** Describe the structures and biological functions of cells and their components such as DNA, RNA, lipids, carbohydrates and protein.<br>**LO4.** Explain the differences between eukaryotic and prokaryotic cells, as well as |

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| | | comparing plant and animal cells.<br>**LO5.** Explain the metabolic pathways cells use to obtain and transform energy during the life cycle. |
| **P10 - MHR20** | **HUMAN RIGHTS** | Human Rights this course is designed to develop fundamentals values are respect for human dignity and human rights freedom, democracy equality and the rule of law.<br>At the end of this course the students will be able to<br>**LO1.**Understand the historical growth of the idea of human rights.<br>**LO2.**Demonstrate an awareness of the international contact of human rights.<br>**LO3.**Demonstrate an awareness of the position of human rights in the UN declaration.<br>**LO4.**Understand the importance of the human rights act.<br>**LO5.**Analyseand evaluates concepts of fundamental rights in Indian constitution. |
| **P10 - MAM21** | **MEDICAL MICROBIOLOGY** | Learning to awareness of microbial diseases of human beings and causes and cures.<br>**LO1.**To understand the pathogenic microbes characterization and mechanisms of diseases causing method.<br>**LO2**.Process known to the collect the sample.<br>**LO3.**Studies about the important microorganisms.<br>**LO4.**Interested learn virus classification, characterization, mechanisms and vaccines agents.<br>**LO5.**Finally learn to pathogenic fungus and parasites. |
| **P10 - MAM22** | **MICROBIAL PHARMACOLOGY** | After completing this course students will be able to:<br>**LO1.**Able to distinguish between pharmacokinetics and pharmacodynamics.<br>**LO2.**Understand the mechanism of action and use of drugs for treatment of disorders of nervous system.<br>**LO3.**Compare and contrast the drugs used for immunostimulants and immunosuppressant.<br>**LO4.**Describe the drugs used for the treatment of different microbial diseases their mechanisms of action, their efficacy and their adverse effects.<br>**LO5.**Understand the principle and mechanisms of action of drugs of neoplastic diseases. |
| **P10 - MAM24C** | **MICROBIAL BIONANOTECHNOLOGY** | To inculcate knowledge in basic Microbial bionanotechnology<br>**LO1.**To understand the classification, synthesis and nanostructured materials. |

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| | | **LO2.**Learn a board foundations knowledge of the concept of vector. **LO3.**Students get information about types of nonoparticles and the essential role of nanoparticles.<br>**LO4.**Understand the impart on nanoparticles based drug delivery.<br>**LO5**.Acquired knowledge to inproved the application of nanotechnology.<br>**LO6.**Understand the base for the molecular structure and nanocomposites. |
| **P12 - MBC 24A** | **MICROIOLOGY (I M.Sc., BIOCHEM)** | Completing course after learned students<br>**LO1.**Compare and contrast the structure and synthesis of cell wall of Gram Positive and Gram Negative bacterial.<br>**LO2.**Discuss the ultra structure of bacteria,fungi and protozoa.<br>**LO3.**Understand the concept of growth and microbial metabolism.<br>**LO4.**Compare and contrast replication of DNA and RNA viruses.<br>**LO5**.understand the mechanism of antimicrobial agents.<br>**LO6**.Analyse different type of infections is transmitted by bacteria and viruses. |
| **P10 - MAM25** | **SUBJECTS COVERING CORE PAPER 1, 2 & 3** | Able to understanding theory and<br>Practical skill in microscopy:<br>**LO1**.Their handling and staining procedures.<br>**LO2**.Learning the safe and methods for isolation, subculture and measurement of bacterial, fungal and viral specimens..<br>**LO3.**Understanding of fundamental biochemical reaction and related bacterial and fungal physiology.<br>**LO4.**About the heamatology realated techniques and physiology activities<br>**LO5.**Analyse and study about the food spoilage and environmental microbes characterization. |
| **P10 - MAM26** | **SUBJECTS COVERING CORE PAPER 4,5 & 6** | To impart knowledge on microbial diseases, metabolism and hands on training on computer applications in biology.<br>**LO1.** Collection ,transport and processing of pathological specimens for microbiological and biochemical test examinations.<br>**LO2**.Learning to isolate the some pathogenic microorganisms characters.<br>**LO3.**Studied about the pathogenic bacterial organisms susceptibility test.<br>**LO4.** Manual learning knowledge data insert to computer. |
| **P10 - MAM31** | **MICROBIAL GENETICS AND MOLECULAR BIOLOGY** | Understand the basic and applied aspects of molecular biology and microbial genetics.<br>**LO1**.Learning to genetic material proving experiment. |

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| | | **LO2.**Study about the Gene transfer mechanisms and types.<br>**LO3.**Organisms special character Molecular level carry about plasmids.<br>**LO4**.Learning to Genemap and its uses.<br>**LO5.**New concept learn to operon and tryptophan. |
| **P10 - MAM32** | **RECOMBINANT DNA TECHNOLOGY** | The students are capable of describing:<br>**LO1.**Demonstrate working knowledge in a defined still set of PCR, gene isolation and cloning, DNA sequencing and analysis.<br>**LO2.** To understand the steps involved in recombinant DNA technology.<br>**LO3**.To explains the Construction of DNA and cDNA library and their applications.<br>**LO4.**To understands the knowledge about protein engineering and proteome analysis.<br>**LO5.**Describe the process of gel electrophoresis and explain how the characteristics of nucleic acids affect their migration through a gel. |
| **P10 - MAM33** | **INDUSTRIAL BIOTECHNOLOGY** | By the conclusion of this course the students are capable of describing :<br>**LO1.**A large number of substrate that are used for industrial fermentation process.<br>**LO2.**Have a acquired a detailed knowledge production of microbial and non-microbial products.<br>**LO3.**Have developed an understanding of different types of bioreactors.<br>**LO4.**Are capable of describing algal biotechnology and bionanotechnology. |
| **P10 - MAM34A** | **BIOLOGICAL TECHNIQUES** | After completing this course students will be able to :<br>**LO1.**Discuss and understand the principles and working mechanism of various types of microscopy.<br>**LO2**.Illustrate the principle and mechanisms of analytical instrument.<br>**LO3.**Compare and contrast the principles and applications of various types chromatographic techniques.<br>**LO4.**Apply Electrophoresis techniques to isolate the macromolecules.<br>**LO5.**Comprehend the field of electrophoresis and PCR based analysis of DNA. |
| **P10 - MAM41** | **RESEARCH METHODOLOGY** | After completing this course, students will be able to:<br>**LO1.**To discuss what a "Research problem" is and to describe how a research problem.<br>**LO2.**Students learn about the principles and functions of Bioinstruments.<br>**LO3.**Students will develop skill regarding nucleic acid and protein separation techniques |

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| | | such as HPLC,GC,AAS |
| **P10 - MAM42A** | **BIOREMEDIATION** | After completing this course, students will be able to:<br>**LO1**.Analyse different types of pollution.<br>**LO2.**Compare and contrast of different types of microorganisms used as bioremediation.<br>**LO3.**Distinguish between biostimulation and bioaugumentation.<br>**LO4.**Apply genetically engineered microorganisms to treat soil contamination.<br>**LO5.**Understand phytoremediation by use of microalgae, green plants to remove pollutants.<br>**LO6**.Analyse Different types of phytoextraction used to treat organic and inorganic pollutants. |
| **P10 - MAM43** | **SUBJECTS COVERING CORE PAPER 7,8 & 9** | To import practical knowledge on various aspects of molecular biology, microbial genetics, gene technology and industrial biotechnology.<br>**LO1.**Study the effect of chemical and physical mutagens on bacterial cells.<br>**LO2.**Demonstration of bacterial transformation and PCR<br>**LO3.**Hands on sills of isolation of Genomic and Plasmid DNA from bacterial cells and its visualization by performing agarose gel electrophoresis.<br>**LO4.**Estimation of DNA and RNA using diphenylamine and orcinol reagent detect by UV spectrophotometer.<br>**LO5.**To separate proteins by column chromatography, ion exchange lipid separation using thin layer chromatography. |
| **P10 - MAM44** | **SUBJECTS COVERING CORE PAPER 10** | To studied practical knowledge on various aspects of research methodology<br>**LO1.**Novel technique learning to about Camera lucida microscope, studied about importance of size of microorganisms.<br>**LO2.**Separation of biomolecules learning through by chromatography technique.<br>**LO3.**Methods and Isolation of DNA, Plasmid DNA from given sample.<br>**LO4**.Demonstration of SDS-Page kit, ELISA and blotting techniques. |
| **P10 - MAM45** | **PROJECT /DISSEERTATION WITH VIVA VOCE** | Learning, handling, difficulties, parameters idea about the specific topic.<br>**LO1.**The programme where students work individually or in groups to design experiments to solve/answer a problem suggested.<br>**LO2**. Knowledge to write a research plan proposal<br>**LO3.**To know about how to write a review<br>**LO4.**To gain a experience on research |

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| | | **LO5.**To know about how to prepare a data and statistical analysis and interpretation results idea. |
| **P12-MBC43B** | **HERBAL TECHNOLOGY (BIOCHEMISTRY)** | At the end of the course students will be able to<br>**LO1:** Explain method for identification and authentication of herbal drugs<br>**LO2:** Explain methods for selection and processing of herbal drugs as<br>raw materials for herbal drug preparation<br>**LO3:** Explain methods of good agricultural practices for medicinal plants like organic farming and using biopesticides for pest control<br>**LO4:** Explain basic principles of traditional medicinal systems with method of preparation and standardization of ayurvedic formulations |

| **Course Code** | **Course name** | **Learning Outcome** |
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| **M11 –HMRM11** | **RESEARCH METHODOLOGY** | **LO1.**Understand some basic concepts of research and its methodologies<br>**LO2.**Identify appropriate research topics<br>**LO3.**Select and define appropriate research problem and parameters<br>**LO4.**Prepare a project proposal (to undertake a project)<br>**LO5.**Organize and conduct research (advanced project) in a more appropriate manner.<br>**LO6.**Write a research report and thesis<br>**LO7.**Write a research proposal |
| **M11 – HMMB12** | **ADVANCED MICROBIOLOGY** | **LO1.**Students learned important microbiological lab instruments.<br>**LO2.**Get a knowledge latest and equipment and mechanisms of technology.<br>**LO3.**Basic subject elaborately learned and indepth about the specific field. |
| **M11 – HMMB13** | **GUIDE PAPER** | After studied in this subject to understand<br>**LO1.**To study and support the knowledge based project work.<br>**LO2.**Learning mechanisms specifically microbial metabolism.<br>**LO3.**The learning about different fields get choose the option for particular field. |
| **M11 – HMMB14** | **PROJECT/DISSERTATION WITH VIVA VOCE** | **LO1**. Knowledge to write a research plan in specialization.<br>**LO2.**To know about how to write a review<br>**LO3.**To gain a experience on difficult to research and find the problems.<br>**LO4.**To know about how to prepare a data and statistical analysis write interpretation.<br>**LO5.**To explain and discussion about specialization field. |

## DEPARTMENT OF PHYSICS

| Programme Outcomes |
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| **PO1. Scientific knowledge:** By applying the basic laws in Physics, understand the scientific behavior behind in the day to day life. |
| **PO2. Problem analysis:** Identify, formulate, the problems and calculating the errors and rectifying it by choosing the right solution. |
| **PO3. Design/development of solutions:** Design solutions for a problems by analyzing and applying the correct laws for solution |
| **PO4. Conduct investigations of complex problems:** The problems are investigated and the practical solutions are given for them |
| **PO5. Modern tools usage:** By creating a new methods the new laws and techniques were used |
| **PO6. Environment and sustainability:** Understand the basic principles of physics with the environment and its sustainability |
| **PO7. Ethics:** Apply ethical principles and responsibilities and norms of the scientific practice. |
| **PO8. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. |
| **PO9. Communication:** Communicate effectively on complex activities with the scientific community and with the society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. |
| **PO10. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change |

## I. Programme Specific Outcomes

| Programme | Programme Specific Outcomes |
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| B.Sc Physics | A graduate with a B.Sc. in Physics will have the ability to<br><br>**PSO1.** Demonstrate the following areas<br>o Basic concepts of Physics<br>o Physics related with nature and day to day life things<br>o Application of physics in various fields<br>o Mathematical problem solving of physical problems<br>o Quantum mechanics, wave nature<br>o Sounds and Acoustics of buildings<br>o Thermal and statistical behaviors<br>o Light and laser communications<br>o Electricity and magnetism<br>o Atom and its structure<br>o Nucleus and radioactivity<br>o Solid state and crystals<br>o Microprocessor and its applications<br>o Digital and applied electronics<br>o Basic concepts of electronics<br>**PSO2.** Apply problem-solving skills to solve real world problems with Physics.<br>**PSO3.** Develop practical skills of designing a circuits |

| Course Code | Course Name | Learning Outcome |
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| U28PHY11 | Properties of matter and Acoustics | After completing this course, students will be able to:<br><br>**LO1.** Create and know about matter and its properties<br>**LO2.** Use the basic laws to solve a problem<br>**LO3.** Define surface tension & viscosity<br>**LO4.** Define various types of modulus<br>**LO5.** Basic concept of sound and its nature.<br>**LO6.** Create a good acoustics for buildings |
| U28PHY21 | Thermal Physics & Statistical Methods | After completing this course, students will be able to:<br><br>**LO1.** Apply the concepts of statistical methods<br>**LO2.** Develop the knowledge of heat conduction, Radiation & convection<br>**LO3.** Create the knowledge about black body radiation<br>**LO4.** Apply the Carnot's theorem to create a internal combustion engine.<br>**LO5.** Develop the basic concept of Entropy |
| U28PHY15 CA | Allied Chemistry I | After completing this course, students will be able to:<br><br>**LO1.** Declare the concept of solvents, solutions, etc<br>**LO2.** Read the concepts of metals and ores<br>**LO3.** Create the concept of stereo isomers<br>**LO4.** Define function of chemical kinetics<br>**LO5.** Create a knowledge about osmosis<br>**LO6.** Understand and apply the concept of nuclear chemistry |
| U28PHY25 CA | Allied Chemistry II | After completing this course, students will be able to:<br><br>**LO1.** Learn about the coordination chemistry<br>**LO2.** Learn about industrial chemistry<br>**LO3.** Learn the concept of electrochemistry<br>**LO4.** Develop the application chemistry in various fields |
| U28PHY22 | Practical I | After completing this course, students will be able to: |
| | | **LO1.** Appreciate the need of practical application of modulus<br>**LO2.** Find the value for surface tension , viscosity etc<br>**LO3.** Apply the UV method find the focal length of the lenses<br>**LO4.** Develop the knowledge of law of cooling<br>**LO5.** Calibrate the voltmeter<br>**LO6.** Implement the laws and finds the frequency of tuning fork<br>**LO7.** Calculate the relative density of solid and liquids |

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| U28PHY25CP | Allied Chemistry Practical | After completing this course, students will be able to:<br><br>**LO1.** Understand the volumetric analysis<br>**LO2.** Understand and finds the natures of salts<br>**LO3.** Learn the compounds presents in a salt<br>**LO4.** Learn the presence and absence of compounds |
| U28PHYES10 | Environmental Studies | After completing this course, students will be able to:<br><br>**LO1.** To study the environment and Eco system<br>**LO2.** Apply the basic nature rules<br>**LO3.** Create the food chain<br>**LO4.** Create clean and good environment<br>**LO5.** Connect to the social based ideas |
| U28PHYGA20 | Value Education | After completing this course, students will be able to:<br><br>**LO1.** To know the basic values for being a good human<br>**LO2.** Create the values in society<br>**LO3.** Apply the values in society<br>**LO4.** To know the family values<br>**LO5.** Create the ethics in society |
| U28PHY31 | Electricity and Magnetism | After completing this course, students will be able to:<br><br>**LO1.** Develop the knowledge of electricity and magnetism<br>**LO2.** Apply the circuital laws to analyze a circuit<br>**LO3.** Develop the knowledge of transient currents<br>**LO4.** Learn the concepts of star and delta connections<br>**LO5.**To know the magnetic properties<br>**LO6.** Differentiate the dia, para and ferro magnetism. |
| U28PHY32 | Electrical appliances (SBS I) | After completing this course, students will be able to:<br><br>**LO1.** Learn the basic concepts of electrical appliances |
| | | **LO2.** Develop the knowledge of colour coding in resistor and capacitor<br>**LO3.** Gather, understand, analyze and specify the fuses, earthing and overloading<br>**LO4.** Develop and implement various applications<br>**LO5.** Apply testing strategies of fuses resistors etc. |
| U28PHY41 | Mechanics | After completing this course, students will be able to:<br><br>**LO1.** Identify and define the problem of rigid body<br>**LO2.** Define moment of inertia of solid bodies<br>**LO3.** Gather and analyze the hydrostatic principles<br>**LO4.** Propose and solve the problems by classical mechanics<br>**LO5.** Define the concepts of rockets and satellites<br>**LO6.** Develop the knowledge of meta centric of a ship |

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| U28PHY42 | Electronic appliances (SBS II) | After completing this course, students will be able to:<br><br>**LO1.** Create a new ideas about electronic devices<br>**LO2.** Design a network by using diodes<br>**LO3.** Create a voltage regulator circuits<br>**LO4.** Principles of TV transmission and reception<br>**LO5.** Design a model of transmitter and receiver<br>**LO6.** Types of antenna and their design<br>**LO7.** Basic concepts of a PN junction diodes and transistors. |
| U28PHY15 MA | Allied Mathematics I | After completing this course, students will be able to:<br><br>**LO1.** To explore fundamental concepts of mathematics<br>**LO2.** Understand the concept of algebra<br>**LO3.** Describe the polynomial equations<br>**LO4.** Creates a knowledge of matrices<br>**LO5.** Explain trigonometry and differential calculus |
| U28PHY25 MA | Allied Mathematics II | After completing this course, students will be able to:<br><br>**LO1.** Apply integrals for solving different function<br>**LO2.** Forming partial differential equation<br>**LO3.** Apply Laplace transform equation for a function<br>**LO4.** Analyzing vector functions<br>**LO5.** Using the vector analysis for line, surface and closed integral |

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| U28PHYN34 | Introduction to information technology ( NME I) | After completing this course, students will be able to:<br><br>**LO1.** Develop a functional application based on the software design<br>**LO2.** Apply coding, debugging and testing tools to enhance the quality of the software<br>**LO3.** Construct new software system based on the theory and practice gained through this exercise<br>**LO4.** To know about the fundamental things of computer using Windows Operating System.<br>**LO5.** Learn technical report and oral presentation skills |
| U28PHYN44 | Internet and its application ( NME II) | After completing this course, students will be able to:<br><br>**LO1.** To learn about e-marketing such as e-cash, e-tracking, customer relationship management.<br>**LO2.** To learn the concepts mail<br>**LO3.** Construct new software system based internet application<br>**LO4.** To know about the fundamental of internet services<br>**LO5.** Learn and developing the protocols |
| U28PHY44 | Practical II | After completing this course, students will be able to:<br><br>**LO1.** Develop the concepts of interference<br>**LO2.** Applying and the frequency of ac mains<br>**LO3.** Construct low range power pack and regulator circuits<br>**LO4.** Calibrating the high range ammeter<br>**LO5.** Learn and develop the practical skills |
| U28PHY51 | Optics | After completing this course, students will be able to:<br><br>**LO1.** Develop the basic concept light and lens making<br>**LO2.** Explains interference pattern and its application<br>**LO3.** Construct the diffraction grating<br>**LO4.** Prepare the Polaroid's<br>**LO5.** Learn the working and construction of Fiber optics |
| U28PHY52 | Atomic Physics | After completing this course, students will be able to:<br><br>**LO1.** Explain the atomic structure<br>**LO2.** Apply and finds the e/m ratio of an element<br>**LO3.** To study intensity and interval rule<br>**LO4.** Study about the construction working IR and Raman instrumentation<br>**LO5.** Learn technique of LASER |

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| U28PHY53 | Basic Electronics | After completing this course, students will be able to:<br><br>**LO1.** Explain the concept of semiconductor, diode and transistor<br>**LO2.** Construction and working of rectifiers<br>**LO3.** Construct the feedback oscillator<br>**LO4.** Clipping and clamping the waves<br>**LO5.** Learn technical concept transmission and reception and various modulation |
| U28PHYE54A | Digital Electronics (Elective I) | After completing this course, students will be able to:<br><br>**LO1.** Explain the digital fundamentals and number system<br>**LO2.** Apply the Boolean laws to solve a problem<br>**LO3.** Construct a decoder and sequential flip flops<br>**LO4.** Develop a knowledge about shift register and counters<br>**LO5.** Learn the principle of D/A and A/D |
| U28PHY55 | Astro physics (SBS III) | After completing this course, students will be able to:<br><br>**LO1.** To the astronomical instrument<br>**LO2.** Gives the introduction about space<br>**LO3.** Explain the birth and death of a star<br>**LO4.** Calculate the inter space, lunar distance<br>**LO5.** Evolution of solar system |
| U28PHY61 | Nuclear physics | After completing this course, students will be able to:<br><br>**LO1.** Explain the nuclear structure<br>**LO2.** Learn the nuclear disintegration<br>**LO3.** Explain about a particle accelerator<br>**LO4.** Develop the knowledge of radio activity<br>**LO5.** Learn about elementary particles |
| U28PHY62 | Relativity, Quantum mechanics & Mathematical Physics | After completing this course, students will be able to:<br><br>**LO1.** Explain the relativity<br>**LO2.** Apply the concept of duality property of light<br>**LO3.** Apply Schrödinger equation for problems<br>**LO4.** Prepare the solution for Beta Gamma functions<br>**LO5.** Learn the special functions |
| U28PHY63 | Solid state Physics | After completing this course, students will be able to:<br><br>**LO1.** Create a knowledge about crystallography<br>**LO2.** Explain the structure and bonding<br>**LO3.** Explain X ray diffraction<br>**LO4.** Create a knowledge about different magnetization<br>**LO5.** Learn the fundamentals of Dielectric |

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| U28PHYE64 | Applied electronics (Elective II) | After completing this course, students will be able to:<br><br>**LO1.** Develop a functional application based on the software design<br>**LO2.** Apply coding, debugging and testing tools to enhance the quality of the software<br>**LO3.** Construct new software system based on the theory and practice gained through this exercise<br>**LO4.** Prepare the proper documentation of software projects following the standard guidelines<br>**LO5.** Learn technical report and oral presentation skills |
| U28PHYE65 A | Microprocessor 8085(Elective II) | After completing this course, students will be able to:<br><br>**LO1.** Learn about pin configuration and internal block diagram<br>**LO2.** Apply the instruction to write programs<br>**LO3.** Construct timing and interfacing memory<br>**LO4.** Prepare the I/O interfacing and timing<br>**LO5.** Learn to interface a peripheral device |
| U28PHY66 | Instrumentation techniques (SBS IV) | After completing this course, students will be able to:<br><br>**LO1.** Learn about the electrical instrumentation<br>**LO2.** Apply the instrumentation technique to convert AD to DA converter<br>**LO3.** Construct an analytical instruments<br>**LO4.** Prepare the strain gauges<br>**LO5.** Learn about bio medical instrumentation |
| U28PHY67 | Practical III (General) | After completing this course, students will be able to:<br><br>**LO1.** Learn about to find refractive index of material<br>**LO2.** Apply the electrical laws and calibrate a high range voltmeter<br>**LO3.** Convert a galvanometer into ammeter and voltmeter<br>**LO4.** Prepare to find focal length and refractive index of lens<br>**LO5.** Learn to find the magnetic properties |
| BPH15C | ALLIED PHYSICS -I | LO1. To find the types of modulus; identify the rigidity modulus and also apply the practical applications. To determine the viscosity and surface tension for various types of liquids.<br>LO2. Define heat and low temp laws; create the super conducting materrials; understanding different kind of super conducting materials and apply the practical applications.<br>LO3. Compare various types of electricity experiments; understanding about magnetism; develop practical applications of TANC position and vibrant magnetometer. |

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| | | LO4. Develop a practical application based on the ultrasonics; perform piezo electric method; apply sound experiments in practical applications.<br>LO5. Identify and define the interference, diffraction and fibre optics; design optic fiber; develop small application an interference and diffraction. |
| BPH25C | ALLIED PHYSICS – II | LO1. Learn about the wave mechanics; apply the experimental study of wave matters in davisson and germer and gp thomsons experiments.<br>LO2. Define particle accelerators; conservation law; develop process models gm counter and rutherfords experiments.<br>LO3. Understanding source of conventional energy; construct the diagram of solar cell, drier and water heater; advantages of conventional and non – conventional energy; apply bio gas generation in industrial and space applications.<br>LO4. Learn about the crystal structure; construct the working model of crystal structure; to develop the research skills in crystallography.<br>LO5. Learn about the electronics and digital electronics; construct NAND –NOR gate; apply transistors, diode in various electronic circuits; practical application of digital electronics. |
| BPPH25C | ALLIED PHYSICS PRACTICALS | LO1. Properties of matters: to determine the properties of matters young's modulus, rigidity modulus using pin and microscopic method, steric torsion and torsion oscillation without mass learn about surface tension and viscosity to determine by drop weight method.<br>LO2. Sound: To determine the frequency of tuning fork and ac frequency of steel and brass wire.<br>LO3. Heat: define newton's law of cooling. To determine the specific heat of capacity of liquid.<br>LO4. Light: using Na vapor lamp to determine the prism angle A and angle of minimum deviation D.<br>LO5. Electricity: using potentiometer to calibrate the low range voltmeter and current sensitizers. Learn about the principle of potentiometer.<br>LO6. Digital electronics: learn about the digital electronics. Using digital electronics kit to prove the NAND and NOR universal gate and prove demorgens theorem. |

இந்தோ-அமெரிக்கன் கல்லூரி,செய்யாறு

கற்றல் கற்பித்தலின் வெளிப்பாட்டுத்திறன்

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| பகுதி 1தமிழ் | **BLT10**பருவம்-1 | **LO1.** நவீன இலக்கியங்களின் மூலம் படைப்புத்திறனையும் கற்பனைத்திறனையும் வளர்த்தல்.<br>**LO2.** தொடரமைப்பைஉணர்த்திசொற்களஞ்சியத்தைத் பெருக்குதல்<br>**LO3.** கலைத்திறனைஉணர்த்திகலாச்சாரத்தைப் புகுத்துதல்.<br>**LO4.** கதைகளின் வாயிலாகசமூகஒழுக்கத்தைப் போதித்தல்.<br>**LO5.** மொழிஆளுகையும்,மொழித்திறனையும் மேம்படுத்தல். |
| | **BLT20**பருவம்-2 | **LO1.** பக்தி இலக்கியத்தின் வழி அறத்தைவலியுறுத்துதல்.<br>**LO2.** சமயங்களின் பூசல்களினால் தமிழின் வளர்ச்சியைவிளக்குதல்.<br>**LO3.** இலக்கியங்கள் சமூகவாழ்வியலோடுஒன்றியிருத்தலைஎடுத்துக்காட்டல்.<br>**LO4.** மனிதனும் தெய்வமாகலாம் என்றஉயர்ந்தபண்பினை இலக்கியத்தின் வழி உணர்தல்.<br>**LO5.** ஒருவரிடம் எவ்வாறுஅனுகவேண்டும் என்பதைஉணர்த்திமாணவனின் ஆளுமைப் பண்பைவளர்த்தல். |
| | **BLT30**பருவம்-3 | **LO1.** அறத்தின் வழி மனிதவாழ்க்கையைநெறிப்படுத்துதல்.<br>**LO2.** சமூகத்தில் பெண்மைக்கானமதிப்பையும்,மரியாதையும் நிலைநாட்ட அறிவுறுத்தல்.<br>**LO3.** இராமாயணத்தின் வழி மாணவரிடையேகவித்திறனைப் புகுத்திசமூக விழுமியத்தைநிலைநாட்டல்.<br>**LO4.** புராணத்தின் பழமையையும் பண்பாட்டையும் வலியுறுத்துதல்.<br>**LO5.** மொழிப் பயன்பாட்டின் முக்கியத்துவத்தைஉணர்த்துதல். |
| | | **LO1.** சங்க இலக்கியத்தில் மனிதவாழ்வியல் விழுமியங்களைமதிப்பீடுசெய்தல்.<br>**LO2.** சங்ககாலமக்களின் வீரம்,கொடைபோன்றதனிமனிதஒழுக்கத்தை |

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| | **BLT40**பருவம்-4 | **உணர்த்துதல்.**<br>**LO3. இல்லறவாழ்வின் உன்னதத் தன்மையை இலக்கியத்தின் வழி போதித்தல்.**<br>**LO4. திணைஒழுக்கத்தைக் கூறிமுல்லைத் திணையின் தலைவன் தலைவி வாழ்வியலைஉணர்த்துதல்.**<br>**LO5. இலக்கியத்தின் வரலாற்றினைஎடுத்துரைத்தல்.** |

**பருவம்-1**

1. நவீன இலக்கியங்களின் மூலம் படைப்புத்திறனையும் கற்பனைத்திறனையும் வளர்த்தல்.ரமைப்பைஉணர்த்திசொற்களஞ்சியத்தைத்பெருக்குதல்

3. கலைத்திறனைஉணர்த்திகலாச்சாரத்தைப் புகுத்துதல்.

4. கதைகளின் வாயிலாகசமூகஒழுக்கத்தைப்போதித்தல்.

5. மொழிஆளுகையும்,மொழித்திறனையும் மேம்படுத்தல்.

**பருவம்-2**

1. பக்தி இலக்கியத்தின் வழி அறத்தைவலியுறுத்துதல்.

2. சமயங்களின் பூசல்களினால் தமிழின் வளர்ச்சியைவிளக்குதல்.

3. இலக்கியங்கள் சமூகவாழ்வியலோடுஒன்றியிருத்தலைஎடுத்துக்காட்டல்.

4. மனிதனும் தெய்வமாகலாம் என்றஉயர்ந்தபண்பினை இலக்கியத்தின் வழி உணர்தல்.

5. ஒருவரிடம் எவ்வாறுஅனுகவேண்டும் என்பதைஉணர்த்திமாணவனின் ஆளுமைப் பண்பைவளர்த்தல்.

**பருவம்-3**

1. அறத்தின் வழி மனிதவாழ்க்கையைநெறிப்படுத்துதல்.

2. சமூகத்தில் பெண்மைக்கானமதிப்பையும்,மரியாதையும் நிலைநாட்டஅறிவுறுத்தல்.

3. இராமாயணத்தின் வழி மாணவரிடையேகவித்திறனைப்புகுத்திசமூகவிழுமியத்தைநிலைநாட்டல்.

4. புராணத்தின் பழமையையும் பண்பாட்டையும் வலியுறுத்துதல்.

5. மொழிப் பயன்பாட்டின் முக்கியத்துவத்தைஉணர்த்துதல்.

## பருவம்-4

1. சங்க இலக்கியத்தில் மனிதவாழ்வியல் விழுமியங்களைமதிப்பீடுசெய்தல்.
2. சங்ககாலமக்களின் வீரம்,கொடைபோன்றதனிமனிதஒழுக்கத்தைஉணர்த்துதல்.
3. இல்லறவாழ்வின் உன்னதத்தன்மையை இலக்கியத்தின் வழி போதித்தல்.
4. திணைஒழுக்கத்தைக் கூறிமுல்லைத் திணையின் தலைவன் தலைவிவாழ்வியலைஉணர்த்துதல்.
5. இலக்கியத்தின் வரலாற்றினைஎடுத்துரைத்தல்.