ANDHRA LOYOLA COLLEGE (AUTONOMOUS) VIJAYAWADA

(An Autonomous College in the jurisdiction of Krishna University)

Accredited in III Cycle at 'A' Grade with a CGPA of 3.66/4.00

POS 2022-2023

BA.,- History, Political Science, Special English

PO 1: Domain Expertise: Acquire comprehensive knowledge and skills. Make use of the knowledge in an innovative manner. Effectively apply the knowledge and skills to address various issues.

PO 2: Computing Skills and Ethics: Develop rationale and scientific thinking process. Use technology intelligently for communication, entertainment and for the benefit of mankind. Ensure ethical practices throughout ones endeavour for the well being of human race

PO 3: Efficient Communication & Life Skills: Express thoughts in an effective manner. Listen, understand and project views in a convincing manner. Decide appropriate media to share information. Develop skills to present significant information clearly and concisely to interested groups.

PO 4: Societal contribution: Render service for the general good of the society. Involve voluntarily in social development activities at Regional, National, global levels. Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics. Be a patriotic citizen to uphold the values of the nation

PO 5: Modern equipment Usage: Use ICT effectively. Access, retrieve and use authenticated information. Access, retrieve and use authenticated information. Have knowledge of software applications to analyse data.

PO 6: Effective Project Management: Identify the goals, objectives and components of a project and decide the appropriate time of completion. Plan, organize and direct the endeavour of teams to achieve the set targets in time. Be competent in identifying opportunities and develop strategies for contingencies.

BA.,- Economics, Mathematics, Statistics

PO 1: Disciplinary Knowledge: Generate theoretical and practical knowledge from this chosen programme. It inculcates strong analytical skills that are highly valued in today's increasingly data-driven and interconnected business world.

PO 2: Critical Thinking and Problem solving: Enhance the skill of critical thinking and combat the problems situated in the society, design own problem-solving techniques and implementation pattern.

PO 3: Self-directed and Life-long learning: Acquire the ability to engage in independent and life-long learning in the context of changing socio-economic and technological scenario.

PO 4: Tools and Techniques: Provide with the essential mathematical and statistical methods and tools to be applied in the analytical aspects of Economics. it enhances them to compute and assess the real situation of the economy.

PO 5: Employability: Attain sufficient knowledge and skill in the field of Economics, Statistics, and Mathematics and will be able to have the employability in these areas like Data Analysts, Civil Servants, Public Policy Makers, Banking, Financial Services & Insurance.

PO 6: Competitive: Grow highly competitive in the job market and mould themselves into excellent candidates for Post graduation by acquiring knowledge in Mathematics, Statistics, and Economics.

PO 7: Effective Citizenship and Ethics: Imbibe moral ethics and ability to respond promptly to moral and ethical issues and also commit themselves to professional ethics and responsibility. **PO 8: Entrepreneurship:** Build up Industry focused skills to lead a successful career.

B. Sc.,-Mathematics, Statistics, Computer Science

PO 1: Knowledge: Understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life.

PO 2: Problem analysis: Analysed the given scientific data critically and systematically and the ability to draw the objective conclusions.

PO 3: Programming Skills: Serve as the Programmers or the Software Engineers with the sound knowledge of practical and theoretical concepts for developing software.

PO 4: Communication skills: Develop various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively.

PO 5: Instrumentation: Acquire the skills in handling scientific instruments, planning and performing in laboratory experiments.

PO 6: Environment and sustainability: Developed flair by participating in various social and cultural activities voluntarily, in order to spread knowledge, creating awareness about the social evils, blind faith, etc.

PO 7: Ethics: Imbibed ethical, moral and social values in personal and social life leading to highly cultured and civilized personality.

B. Sc., - Mathematics, Physics, Statistics

After successful completion of three-year degree programme in Mathematics, Physics, Statistics students will be able to

PO 1: Acquire the comprehensive knowledge of major concepts in Mathematics, Physics, Statistics and apply them in their higher studies.

PO 2: Apply subject knowledge and skill to diverse problems within and across the disciplines.

PO 3: Think analytically to solve real life problems, and arrive at a logical conclusion.

PO 4: Develop critical thinking and use their scientific knowledge to carry out successful utilization of the information for the good of others.

PO 5: Predict and analyze the situations by framing the hypothesis and verify the truth in that framed hypothesis through their investigations.

PO 6: Make themselves available for social and developmental activities through their cooperation.

B. Sc.,- (Physics, chemistry, and Mathematics)

On successful completion of UG programme, students will be able to:

PO 1: KNOWLEDGE

- Acquire comprehensive knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry and Mathematics.
- This fundamental knowledge would reflect the latest understanding of the field.
- Apply subject knowledge and skill to diverse problems within and across disciplines.

PO 2: EFFECTIVE COMMUNICATION

- Express the subject through technical writing as well as through oral presentation.
- Transmit the thoughts in a proper way.
- Cultivate confidence to present significant information in a comprehensive, obvious, and accurate way

PO 3: CRITICAL REASONING AND PROBLEM SOLVING

- Solve problems/numerical using basic knowledge and concepts
- Develop scientific outlook to science subjects and towards the aspects related to life.
- Develop an inquisitive characteristic through predicting, planning exploring and interpreting experimental investigation.

PO 4: SELF-DIRECTED LEARNING AND ETHICS

- Acknowledge and appreciate the significance of science and its application in academic, industrial, economic, environmental and social contexts
- Follow the ethical principles and responsibilities to serve the society

PO 5: INDIVIDUAL & GROUP PRESENTATION

- Act as team player in laboratory, field-based situation and industry
- Cooperate, coordinate, and perform effectively in diverse teams/groups.
- Develop the skills of collaboration
- Work as a member of a scientific project team and communicate across teams

PO 6: TECHNOLOGICAL AND DIGITAL LITERACY

- Use e-learning resources such as MOOC and other digital tools for lifelong learning.
- Access essential material and special ICT tools for educational needs
- Collect and store data, access library search tools, simulation software and related work

- Choose appropriate online programmes for further learning; participate in seminars and conferences

PO 7: ENVIRONMENT AND SUSTAINABILITY

- Realize how interdisciplinary approach attributes for better solutions and new ideas for the sustainable developments
- Participate and address environmental issues, as well as take action to keep our natural world healthy

PO 8: SKILLED PROJECT MANAGER

- Set project goals
- Acquire knowledge about project management
- Pertain to scientific approach in writing, planning etc and overcome technical challenges

B. Sc.,-Mathematics, Physics, Computer Science

B.Sc – PROGRAM OUTCOMES (PO's)

A graduate of the Bachelor of Science Program will be able to acquire:

PO – 1 KNOWLEDGE:

Understand the fundamental principles, and the scientific theories of major concepts in Mathematics, Physics, Computer science. Know their relevance in day-to-day life.

PO – 2 CRITICAL REASONING AND PROBLEM SOLVING

Analyze the given scientific data critically and think methodically to solve a problem, and draw a logical conclusion.

PO – 3 SKILL DEVELOPMENT:

PROGRAMMING SKILLS: Develop the skills of programming, serve as the Programmers or the Software Engineers with the sound knowledge of practical and theoretical concepts for developing software.

INSTRUMENTATION: Acquire the skills in handling scientific instruments, planning and performing the laboratory experiments. Make aware and handle sophisticated instruments and equipment.

COMMUNICATION SKILLS: Express the subject through technical writing as well as through oral presentations.

PROJECT: get a comprehensive idea of designing a project, and materialize it.

PO – 4 HIGHER LEARNING & RESEARCH:

Inspire for Higher learning, and Motivation towards Research.

PO – 5 EMPLOYABILITY:

Students can opt for the career in IT sector, Software development Teaching, Scientific organizations, Defense organizations.

PO – 6 TECHNOLOGICAL AND DIGITAL LITERACY

Use e-learning resources such as MOOC and other digital tools for learning althrough their life.

Access essential material and special ICT tools for educational needs

- Collect and store data, access library search tools, simulation software and related work

B. Sc.,- Mathematics, Statistics, Artificial Intelligence

PO 1: Understand the underlying core concepts, principles and theories of Artificial Intelligence

PO 2: Ability to process and analyze information and also enhance the speed, precision and effectiveness of their efforts

PO 3: Comprehend the key concepts of Artificial Intelligence develop skills that can be applied in various areas

PO 4: Identify, analyze and solve the problems in their Personal and professional lives

PO5. Realize the role of Artificial Intelligence in various fields and prepare themselves to face the upcoming challenges

PO 6: Use technical knowledge combined with Artificial Intelligence to develop different intelligent systems with special attribute to human Intelligence

PO 7: Acquire the knowledge to solve the existing problems in the field of Engineering, Industry and other IT Sectors

PO 8: Understand the applications and intricacies of their Core subjects using Artificial Intelligence

PO 9: Attain theoretical and practical knowledge and be at the forefront in implementing the learned theories

PO 10: Able to participate in industry workshops, do poster presentations, group discussions, case studies and project work

B. Sc., - Botany, Zoology, Chemistry

PO 1: Core competency: Students will acquire core competency in the subjects and will be able to identify major groups of plants, animals and basic aspects of chemistry.

PO 2: Analytical ability: The students will be able to apply various scientific methods to address different questions by formulating the hypothesis, data collection and critically analyze the data to decipher the degree to which their scientific work supports their hypothesis.

PO 3: Critical thinking and problem-solving ability: Students will be able to understand the fundamental concepts and their applications of biological and chemical principles and will become critical thinkers and acquire problem solving capabilities.

PO 4: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Tissue culture experiments, cellular and physiological activities of plants and animals with an understanding of the application and limitations.

PO 5: Ethical and Psychological strengthening: Students will also strengthen their ethical and moral values and shall be able to deal with psychological weaknesses. Students will be able to apply ethical principles and commit to environmental ethics and responsibilities and norms of biodiversity conservation.

PO 6: Team Player: Students will learn team workmanship through project works and field trips in order to efficiently serve institutions, industry and society.

PO 7: Independent Learner: Apart from the subject specific skills, generic skills, especially in Botany, Zoology, Chemistry the program outcome would lead to gain knowledge and skills for further higher studies, competitive examinations and employment.

B. Sc.,- Mathematics, Physics, Computer Science

PO 1: Knowledge: Understand the fundamental principles, and the scientific theories of major concepts in Mathematics, Physics, Computer science. Know their relevance in day-to-day life.

PO 2: Critical reasoning and problem solving: Analyze the given scientific data critically and think methodically to solve a problem, and draw a logical conclusion.

PO 3: Skill development: Programming skills: Develop the skills of programming, Serve as the Programmers or the Software Engineers with the sound knowledge of practical and theoretical concepts for developing software.

Instrumentation: Acquire the skills in handling scientific instruments, planning and performing the laboratory experiments. Make aware and handle sophisticated instruments and equipment.

Communication skills: Express the subject through technical writing as well as through oral presentations.

Project: get a comprehensive idea of designing a project, and materialize it.

PO 4: Higher learning & research: Inspire for Higher learning, and Motivation towards Research.

PO 5: Employability: Students can opt for the career in the IT sector, Software development Teaching, Scientific organizations, Defence organizations.

PO 6: Technological and digital literacy: Use e-learning resources such as MOOC and other digital tools for learning all through their life. Access essential material and special ICT tools for educational needs Collect and store data, access library search tools, simulation software and related work

B. Sc.,- Electronics, Mathematics, Computer Science

PO 1:Critical thinking skills: Students able to take informed actions by differentiating between fact and opinion, recognize and evaluate, develop inferential skills and distinguish logical assumption from different perceptive allow making decisions and judgments by using scientific-based reasoning.

PO 2: Analytical skills: Students able to analyze and interpret concepts from a variety of methods apply these methods to analogous situations. They assess the elements of a problem and become competent at problem solving.

PO 3: Usage of modern tools and technologies: Students develop scientific orientation and are at ease in the adoption of modern techniques.

PO 4: Effective communication: Students develop skills like listening, speaking, reading and writing in their respective domains and become communicators.

PO 5: Ethics: Students develop ethical values and contribute to nation building as responsible citizens.

PO 6: Self-directed and life –long learning: Acquire the ability to engage in independent and lifelong learning in the broadest context socio-technological changes.

PO 7: Social interaction and sustainability: Students develop empathy towards the societal needs and are able to contribute sustainable development and gain knowledge and skill to understand and solve environmental issues and problems

PO 8:Effective Project Management: Students will Identify the goals, objectives and components of a project and decide the appropriate time of completion. Also Plan, organize and direct the endeavours of teams to achieve the set targets in time.

PO 9:Domain Expertise: Students acquire comprehensive knowledge and skills then they make use of this knowledge in an innovative manner. Also effectively apply the knowledge and skills to address various issues.

PO 10:Project Innovation: develop innovative skills of developing projects on different core subjects such as Mathematics, Electronics and Computer Science.

B. Com.,- General

PO 1: emerge with competency in the subject of Commerce with Computer Applications and apply knowledge to cater to the needs of Society / Employer / Institution / Own Business Enterprise.

PO 2: imbibe analytical/critical/logical/innovative thinking skills in the field of Accounting Software, Marketing Principles, Enterprise Resource Planning and Web Page Creation.

PO 3: acquire distinct traits and ethics with high professionalism to gain a broader insight into the domain concerned for nation building

PO 4: demonstrate knowledge of major theories and models in key areas of organizational behavior.

PO: 5 analyze commerce/business issues in the international contexts.

B. Sc.,- Visual Communication and Electronic Media

PO 1: To develop the ability to use critical, analytical, and deep in thought thinking and analysis in visual communication.

PO 2: Media studies and its reflection on social and moral responsibilities in students' professional life.

PO 3: To gain knowledge and self-confidence in the distribution of project/research outputs in the fields of Media Arts, Design, and Visual Effects.

PO 4: Apply knowledge of art history, theories and principles to traditional and digital drawing and design skills for visual communication applications relevant to modern applied art markets. **PO 5:** To provide adequate basic understanding about Media Education among the students and to develop language abilities of students to inculcate writing skills and Business correspondence **PO 6:** Design media content with professional ethics and social responsibility to meet the demands of the media environment at various levels including regional, national and global.

PO 7: A better insight on film production and appreciation, Enable the students to handle still and video cameras.

B. Sc.,- Electronics Technology

PO 1: Critical thinking skills: Students able to take informed actions by differentiating between fact and opinion, recognize and evaluate, develop inferential skills and distinguish logical assumption from different perspective allow making decisions and judgments by using scientific-based reasoning.

PO 2: Analytical skills: Students able to analyze and interpret concepts from a variety of methods apply these methods to analogous situations. They assess the elements of a problem and become competent at problem solving.

PO 3: Usage of modern tools and technologies: Students develop scientific orientation and are at ease in the adoption of modern techniques.

PO 4: Effective communication: Students develop skills like listening, speaking, reading and writing in their respective domains and become communicators.

PO 5: Ethics: Students develop ethical values and contribute to nation building as responsible citizens.

PO 6: Self-directed and life –long learning: Acquire the ability to engage in independent and lifelong learning in the broadest context of socio-technological changes.

PO 7: Social interaction and sustainability: Students develop empathy towards the societal needs and are able to contribute sustainable development and gain knowledge and skill to understand and solve environmental issues and problems

PO 8: Effective Project Management: Students will Identify the goals, objectives and components of a project and decide the appropriate time of completion. Also Plan, organize and direct the endeavors of teams to achieve the set targets in time.

PO 9: Domain Expertise: Students acquire comprehensive knowledge and skills then they make use of this knowledge in an innovative manner. Also effectively apply the knowledge and skills to address various issues.

PO 10: Project Innovation: Develop innovative skills of developing projects on different core subjects such as Electronics and Computer Science. This will enhance understanding through practicals and hands-on practice.

B. Sc.,- Food Technology, Microbiology, Chemistry

On successful completion of the program, students will be able to:

PO 1: Domain Knowledge:

- After successful completion of the program, students will have knowledge on the fundamentals of food chemistry and biochemical changes during processing, preservation and packaging of various classes of food.
- Also students will be able to understand food safety and apply sensory evaluation of food, analyze various food safety laws, regulations and acts.

PO 2: Learning and Research:

- To get broad based training in technical skills in various areas of food technology, microbiology and chemistry Acquire knowledge in their domain of interest and thus enabling their applications in industry and research.
- Learn research-based knowledge including design of experiments, analysis and interpretation of data.
- Present scientific approach to solve a problem and gain experience in writing scientific proposals.

PO 3: Usage of Technology:

- To upgrade themselves with the current scientific advancements through various websites and databases.
- Create social media platforms for effective upgradation on current happenings in the scientific field.
- Have knowledge of various scientific databases, retrieve and analyze the data available in them.

PO 4: Professional Skills and Ethics

- Identify and address the ethical issues pertaining to science and in its research.
- Apply ethical principles and commit to follow professional ethics, norms and guidelines in the practice of science.

PO 5: Effective Presentation as Individuals and in Teams:

- To understand the importance of teamwork.

- Function effectively as an individual and a member of team with the experience from the participation in the group projects, the laboratory experiments and social extension activities.

PO 6: Competent Communication & Life Skills:

- Prepare written and oral scientific communications that use tables and graphs to report results, that describe detailed experimental procedures, and that clearly explain conclusions.
- To effectively communicate with food technology and other interdisciplinary professionals.
- Be able to comprehend and write effective project reports and make effective presentations

PO 7: Environmental Sustainability:

- Understand the impact of the discoveries/innovations or inventions developed through scientific methodologies, in contexts of society and environment.
- Acquire knowledge on use of technology in consideration with environment sustainability

PO 8: Contribution to Society:

- Understand their role as part of, both scientific and social societies
- Evaluate the role and positive impacts of research in developing solutions that benefit the society.

PO 9: Life-long learning:

- To understand the dynamism of science, its changing needs technologically, and thus inculcate a positive attitude that it is a life-long learning process

B. Sc.,-Maths, Statistics, Big Data Analytics

PO 1: Apply the learned concepts of core subjects like mathematics, statistics and computer science to find solutions

PO 2: Ability to work faster with an agile mind to compete in the relevant fields

PO 3: Identify the more efficient ways of storing large amounts of data

PO 4: Analyze the new sources of data, information and use them ingeniously and Qualitatively

PO 5: Able to access a variety of structured, unstructured and semi structured data

PO 6: Understand the various key processes like capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating, information privacy and so on and use them effectively in their day-to-day applications

PO 7: Develop various data analysis strategies using the theoretical and practical knowledge **PO 8:** Comprehend the underlying principles and mechanisms in large data sets, algorithms and use them effectively

PO 9: Able to work in a group which in turn enhances their life skills, soft skills, communication skills to make them more competent and capable to face the challenges in their career

PO 10: Analyze the increasing demand and the investment of software firms on specializing in data management and analytics

B. Sc.,-Maths, Statistics, Artificial Intelligence

PO 1: Understand the underlying core concepts, principles and theories of Artificial Intelligence

PO 2: Ability to process and analyze information and also enhance the speed, precision and effectiveness of their efforts

PO 3: Comprehend the key concepts of Artificial Intelligence develop skills that can be applied in various areas

PO 4: Identify, analyze and solve the problems in their Personal and professional lives

PO 5: Realize the role of Artificial Intelligence in various fields and prepare themselves to face the upcoming challenges

PO 6: Use technical knowledge combined with Artificial Intelligence to develop different intelligent systems with special attribute to human Intelligence

PO 7: Acquire the knowledge to solve the existing problems in the field of Engineering, Industry and other IT Sectors

PO 8: Understand the applications and intricacies of their Core subjects using Artificial Intelligence

PO 9: Attain theoretical and practical knowledge and be at the forefront in implementing the learned theories

PO 10: Able to participate in industry workshops, do poster presentations, group discussions, case studies and project work

B. Com.,- Computers

PO 1: emerge with competency in the subject of Commerce with Computer Applications and apply knowledge to cater to the needs of Society / Employer / Institution / Own Business Enterprise.

PO 2: imbibe analytical/critical/logical/innovative thinking skills in the field of Accounting Software, Marketing Principles, Enterprise Resource Planning and Web Page Creation.

PO 3: acquire distinct traits and ethics with high professionalism to gain a broader insight into the domain concerned for nation building

PO 4: demonstrate knowledge of major theories and models in key areas of organizational behavior

PO 5: analyze commerce/business issues in the international contexts.

B. Sc.,- Agriculture and Rural Development

PO 1: To impart first-hand knowledge on agriculture and allied sciences

PO 2: To impart in-depth practical knowledge in agriculture and allied sciences

PO 3: To provide extensive knowledge on agri-allied sectors like Dairy, Agriculture, Fishery and Poultry etc.,

PO 4: To disseminate different technologies through various extension activities

PO 5: To detect and overcome the problems come across in day-to-day agriculture

PO 6: To provide information on commercial agricultural production practices

PO 7: To make students competitive in pursuing higher studies

PO 8: To impart in-depth theoretical knowledge in rural development

BMS.,- E-Commerce Operations

Apprenticeship based BMS program in E-Commerce Operations will be able to provide:

PO 1: Business Communication:

- This course offers critical knowledge about the complexities of modern communication in organizations.
- Help the students to develop and practice their verbal, nonverbal, written and digital communication techniques in a range of simulated workplace situations as well as through liaison with organizations.
- This skill will be particularly relevant for them as they transition to the world of work and advance in their careers.
- To impart knowledge on group decision making.

PO 2: Academic excellence and Professional excellence:

- To prepare graduates who will be proficient in business communication and use of contemporary technologies with academic excellence and pedagogical innovations.
- To provide the platform for the overall development of the students.
- Differentiate and discuss the functional components of business – economics, marketing, accounting and management.
- To provide adequate knowledge and understanding about E-Com practices to the students.
- Learners will be able to recognize features and roles of businessmen, entrepreneurs, managers, consultants, which will help learners to possess knowledge and other soft skills and to react aptly when confronted with critical decision making.

PO 3: Supply chain Visibility:

- To understand the importance of teamwork. To understand the importance of teamwork. This programme helps students to know how to efficiently and effectively manage the flow of goods in the supply chain.

- Helps to evaluate various inventory control methods and different forecasting techniques.

PO 4: Ethics:

- Understand the dynamic and complex working environment of Business.
- Analyze business and organizational situations using ethical approaches to decision making
- Identify ethical issues that impact business decisions from economic, political, legal, and social perspectives.
- Employ a sense of ethics and values which can be applied in a personal and professional environment

PO 5: Critical Thinking Skills:

- Students can identify the business-related problems and can able to apply different business-related tools and techniques to solve the problem and to interpret results.
- To prepare graduates who will be industrial ready, futuristic approach, encouraging student-centric culture.
- Demonstrate the ability to recognize the need for information, be able to identify, locate, evaluate, share and apply the information effectively to facilitate problem-solving and decision-making

PO 6: Enterprise Resource Planning (ERP):

- To understand and able to build an understanding of the fundamental concepts of ERP system
- To create an idea about Business process reengineering.
- To familiarize with business modules of ERP

PO 7: Practical Competence:

- Students will learn how to communicate effectively (using written and spoken word, non-verbal language, electronic tools, and listening skills) to develop relationships, manage conflicts, and work across differences.
- Students will learn how to effectively articulate their set of practical skills and tools on a resume, in a portfolio, and during interviews.

BBA.,- Bachelor of Business Administration

PO 1: Academic Excellence & Professional Excellence:

- Students can cope up with the latest developments in contemporary, national and global level through effective transaction of the curricular and co- curricular aspects.
- Students will be motivated for positions of leadership in business organizations at the local, national and international levels.
- To prepare graduates who will be proficient in business communication and use of contemporary technologies with academic excellence and pedagogical innovations.
- To provide the platform for the overall development of the students.
- Differentiate and discuss the functional components of business – economics, marketing, accounting, finance, law, and management

PO 2: Business Knowledge:

- Students can demonstrate technical competence in domestic and global business through the study of major disciplines within the fields of business.
- To provide adequate basic understanding about the basic principles of Management Education among the students.
- To prepare students to exploit opportunities being newly created in the Management Profession.
- To impart the knowledge of functional areas of management like HR, finance and marketing.
- Demonstrate proficiency in the fundamental business principles and practices that enable successful firms to operate in domestic and global environments.

PO 3: Critical Thinking Skills:

- Students are able to define, analyze, and devise solutions for structured and unstructured business problems and issues using cohesive and logical reasoning patterns for evaluating information, materials, and data.

- Students can identify the business-related problems and can able to apply different business-related tools and techniques to solve the problem and to interpret results.
- To make them employable through demonstration of ability to solve problems.
- To prepare graduates who will be industrial ready, futuristic approach, encouraging student-centric culture.
- Demonstrate the ability to recognize the need for information, be able to identify, locate, evaluate, share and apply the information effectively to facilitate problem-solving and decision-making

PO 4: Communication Skills:

- Students are able to conceptualize a complex issue into a coherent written statement and oral presentation.
- To train the students in communication skills effectively.
- Students can communicate clearly in person and through electronic media and make meaning of the world by connecting people, ideas, media and technology.
- To build self-confidence and improve communication skills.
- To Demonstrate written and oral skills appropriate for business communication

PO 5: Entrepreneurship and Innovation:

- Students can demonstrate the fundamentals of creating and managing innovation, new business development, and high-growth potential entities.
- To develop appropriate skills in the students so as to make them competent and provide themselves self-employment.
- To inculcate Entrepreneurial skills.
- Facilitating students to “Think out of box”
- Employ empirical approaches to planning and decision-making using quantitative reporting mechanisms.

PO 6: Individual and team work:

- Students can function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- To work well in teams, including virtual settings.
- Elicit views of others, mediate disagreements and help reach conclusions in group settings.
- Construct and apply aspects of team development and construct for the purpose of solving business problems and attaining organizational goals

PO 7: Technology Skill

Students are competent in the uses of technology in modern organizational operations.

- To help students to make appropriate decisions by analyzing data.
- Apply appropriate quantitative and qualitative techniques in solving business problems.
- Analyse the theoretical knowledge with the practical aspects of Organizational setting and techniques or management.
- Use analytical and reflective thinking techniques to identify and analyze business problems, develop viable solutions, and make effective decisions.
- Specify the role of technology as a strategy for competitive advantage in business.

PO 8: Ethics:

- Apply ethical principles and commit to professional ethics and responsibilities and norms of the Management practice.
- Students can recognize different Social and Ethical issues relating to business and research aspects.
- Understand the dynamic and complex working environment of Business.
- Analyze business and organizational situations using ethical approaches to decision making
- Identify ethical issues that impact business decisions from economic, political, legal, and social perspectives.
- Employ a sense of ethics and values which can be applied in a personal and professional environment

PO 9: Environment and sustainability:

- Students can understand the impact of the professional solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- Understand of the corporate world
- Determine the various PEST (Political, Economic, and Social Technological) factors influence on changes of business environment.

PO 10: Project management and finance:

- Demonstrate knowledge and understanding of the 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.
- To enhance the critical evaluation capability of the students.

- Determine conceptual and analytical abilities required for effective decision making.
- Analyze business problems through quantitative reasoning and methods by obtaining, evaluating and interpreting the data

PO 11: 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.
- To inculcate professionalism in education through focused initiatives.
- Opportunities to explore hidden strengths

BBA.,- Logistics Management

Apprenticeship based BBA programme in Logistics Management will be able to provide

PO 1: Critical thinking Skills:

- Apply the knowledge gained in the area of logistics & supply chain in a critical manner towards solving complex problems.
- Students will use systematic and creative thinking skills to analyse and evaluate issues and arguments, to solve problems, and/or to make decisions.

PO 2: Interdisciplinary Skills:

- Understand the interdisciplinary approach of the various concepts learned in logistics management & its association with the various fields of study.
- Develop an awareness of interdisciplinary opportunities in professional art and design practices.
- Increase their exposure to a broad range of skills, experiences, and knowledge.

PO 3: Communication Skills:

- Understand and communicate effectively with the various stakeholders involved in logistics & shipping domain thereby marching towards the satisfaction of their needs
- Students will be able to find, use, and evaluate primary academic writing associated with the communication discipline.
- Students will develop knowledge, skills, and judgment around human communication that facilitate their ability to work collaboratively with others.

PO 4: Leadership Skills:

- Apply the skills and competencies gained in his/her graduation towards becoming a corporate leader
- Students will understand the history of leadership and current leadership theories. In addition, students will understand how leadership models are put into practice personally, locally, and globally.

PO 5: Employability:

- Introspect & develop a planned approach towards his logistics career & life in general.
- Provides clarity on his career exploration process and to match his skills and interests with a chosen career path.

PO 6: Global Citizenship:

- Understand his/her roles as a global citizen and strive towards its fulfilment
- It provides an opportunity for situational analysis into the dynamics of organizational development and change.

PO 7: Practical Competence:

Students will develop a comprehensive set of practical skills and tools to rely on through leadership practice. Such skills and tools include time management, meeting management and agenda setting, group dynamics, and team building. succeed at various levels of logistics career through the three semesters apprenticeship journey

BBA.,- Aviation Management

PO 1: Provide adequate basic understanding about Management Education among the students and to develop language abilities of students to inculcate writing skills and Business correspondence.

PO 2: Evaluate different business problems using analytical and creative, and integrative abilities and to solve business problems in an ethical manner.

PO 3: Understand finance and other core business content and new venture development.

PO 4: Develop and implement functional and general management skills to make strategic decision in real era.

PO 5: Build and Demonstrate Leadership, Teamwork, Social skills and Communicate effectively in different contexts.

PO 6: Facilitate the students to go for professional courses and to develop ethical reasoning, professional behaviour and entrepreneurial skills.

PO 7: To prepare professional quality business documents and deliver a professional quality business presentation and to develop a global perspective towards various legal issues.

PO 8: Can work across multiple functions like operations, trading, project management, consulting, systems / technologies.

PO 9: Can work in Public or Private Sectors, Consulting Firms, Funding agencies, power trading and financing companies.

PO 10: Move to managerial positions in Power & related industries or move up in career.

B.Sc.,- Hospitality and Hotel Administration

PO 1: Apply the knowledge of Hospitality Management, Culinary arts, Service operation, Accommodation operation, Communication Skills and Management to the solution of Hospitality and Hotel administration.

PO 2: Utilize interpersonal skills to lead/manage first-level employees in a hospitality and hotel setting.

PO 3: Communicate effectively and confidently in the classroom, community and industry.

PO 4: Apply the concepts and skills necessary to achieve guest satisfaction.

PO 5: Demonstrate leadership and teamwork to achieve common goals.

PO 6: Develop student in a professional and ethical manner, and practice industry-defined work ethics.

PO 7: Evaluate food safety and sanitation to maintain a safe and sanitary work environment. **PO 8:** Create an attractive and well-designed menu with consideration given to effective costing and pricing principles.

PO 9: Complete and evaluate the data generated from a hotel night audit.

PO 10: Perform cost calculations and apply them to decision-making situations.

PO 11: Develop a professional marketing brochure for a lodging operation.

PO 12: Schedule employees with consideration given to budgets, sales forecasts, and customary labor practices.

COS 2022-2023

Department of Economics

SEMESTER: 1

Program	Semester	Course Code	Course Name
B.A	I	ECO111 MEA	MICRO ECONOMIC ANALYSIS

On successful completion of the course, students will be able to;

CO 1: Explain evolution and growth of economics, what economics is and why it is important, how economists use economic models, Difference between positive and normative economics, static and dynamic economics.

CO 2: Define the concept of utility and satisfaction, Differentiate between marginal utility and total utility, calculate the concept of marginal utility, how consumers maximize total utility within a given income using the Utility Maximizing Rule, Explain how consumer's utility changes when income or prices change, Describe the behavioral economics approach to understanding decision making.

CO 3: Elucidate the determinants of demand, determinants of supply, concept of elasticity, price elasticity of demand and price elasticity of supply, and compute elasticity using common economic variables.

CO 4: Describe the term "production" and explain what a production function is; define the term "production inputs," and differentiate between labor, land, capital, entrepreneurship, technology, economies of scale, diseconomies of scale, and constant returns to scale.

CO 5: Analyze and differentiate between marginal, average, and total product; compute and graph marginal, average, and total product; diminishing marginal product and diminishing marginal returns, Explicit and Implicit Costs, Accounting and Economic Profit.

SEMESTER II

Program	Semester	Course Code	Course Name
B.A	II	ECO122 MEA	MACRO ECONOMIC ANALYSIS

On successful completion of the course, students will be able to

CO 1: Define and explain the process of calculating national income, identify its components, demonstrate circular flow of income.

CO 2: Understanding Say's law of market, classical theory of employment and Keynes' objection to classical theory, demonstrate the principle of effective demand and income determination.

CO 3: Explain the meaning of consumption function, relationship between APC and MPC, consumption and income, concept of multiplier and analyze the theories of absolute and relative income hypothesis.

CO 4: Understand the relationship between investment and savings, demonstrate investment multiplier, and understand the meaning of MEC and MEI.

CO 5: Demonstrate the meaning and function of money, high powered money, monetary and paper system, illustrate various versions of quantity theory of money.

SEMESTER III

Program	Semester	Course Code	Course Name
B.A	III	ECO233DE	DEVELOPMENT ECONOMICS

On successful completion of the course, students will be able to

CO 1: Students will understand the importance of Economic Growth and development, the present chapter creates an awareness on covid-19 immunity aspects.

CO 2: Student's become aware of the growth of different countries and it also help to understand ways to develop with different models.

CO 3: It will develop knowledge among students about the role of developmental theories related to Economic development of a country.

CO 4: Understand Strategies of Economic Development and Role of Infrastructure in Economic Development.

CO 5: India is a developing country so as a student of this country there must know the role of economic development and also must have an idea about market failure and attaining economic development with the help of International Institutions.

SEMESTER IV

Program	Semester	Course Code	Course Name
B.A	**IV**	**ECO244EDIAP**	**ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH**

On successful completion of the course, students will be able to

CO 1: To understand the basic features of the Indian economy and its development since independence, and also to understand the planning structure and the place of the Indian economy in the Human Development Index.

CO 2: Be able to understand the national income, trends and the problems of unemployment, poverty in the economy along with the measures to correct them.

CO 3: Get to know about Indian agriculture, various policies relating to agriculture and the programmes implemented by the government to improve the industrial sector.

CO 4: Utilize the knowledge of taxation to understand the impact on commerce and industry and also to analyze the state central relations.

CO 5: The key changes in Andhra Pradesh state after bifurcation in 2014 and the problems faced by it after separation.

Program	Semester	Course Code	Course Name
B.A	**IV**	**ECO245SME**	**STATISTICAL METHODS FOR ECONOMICS**

On successful completion of the course, students will be able to

CO 1: Understand about the nature and importance of statistics in economics, types of data and sampling, and its collection methods.

CO 2: To analyze the data collection methods, and tabular and graphical presentation of data.

CO 3: To understand about the measures of central tendency namely mean median, mode and measures of dispersion.

CO 4: Able to know correlation and various types along with regression and its uses in real life.

CO 5: Analyze time series and measurement of time series and also index numbers, types, uses and limitations.

SEMESTER V

Program	Semester	Course Code	Course Name
B.A	**V**	**ECO356IS**	**INSURANCE SERVICES**

On successful completion of the course, students will be able to

CO 1: Understand the framework of insurance in India.

CO 2: Assimilate different types of insurance products sold in India & how insurance policy satisfy customer requirements.

CO 3: Adapt different types of life insurance products sold in India & how product meets customer needs.

CO 4: Understand documentation & processing of life insurance proposal forms, claim settlement and surrender of life insurance policy.

CO 5: Be provided with the knowledge of risk and rewards of general insurance.

Program	Semester	Course Code	Course Name
B.A	**V**	**ECO 357BFS**	**BANKING AND FINANCIAL SERVICES**

On successful completion of the course, students will be able to

CO 1: Understanding the Meaning, Function and role of commercial banking. Knowing the procedure of an account opening, operating and closing.

CO 2: Knowing the structure, function and role of RBI in economic Development and Judging the progress of financial inclusion.

CO 3: Evaluating the importance, characteristics and components of the financial market. Along with the role and types of development bank and non banking financial intermediaries.

CO 4: Realizing the banking reforms and Basel Norms I and II and baking services such as E-banking, Loan clearing, ATMs, Digital Currency, Credit card, Debit Card, Travelers cheque.

CO 5: Analyzing the concept of money laundering and various acts to check laundering.

Department of Hindi

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	I	HIN 111 PNG	Prose, Non-Detailed & Applied Grammar - I

At the end of the course Student will

CO 1: Get the scope for linguistic skills of Hindi.

CO 2: Understand 'Unity in Diversity'.

CO 3: For the better understanding in grammar concepts

CO 4: Adapt noble values of Life.

CO 5: Get the knowledge of different Grammar concepts in Hindi.

CO 6: Help the society by their skills & abilities.

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	II	HIN 122 PNG	Prose, Non-Detailed & Applied Grammar - II

At the end of the course Student will

CO 1: Get the scope for linguistic skills of Hindi.

CO 2: Promote perfect use of Vocabulary

CO 3: For the better understanding in grammar concepts

CO 4: Adapt moral values and ethical values so that students can try to build good character

CO 5: Understands the structure of translation methods

CO 6: Help the society by their skills & abilities.

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	III	HIN 233 HLT	Poetry, History of Hindi Literature & Translation

At the end of the course Student will

CO 1: Get a brief knowledge of history of Hindi literature CO

2: Get the scope for literary skills of Hindi

CO 3: Gain Hindi translational skills.

CO 4: Emphasize the responsibilities of humans towards nature.

CO 5: Behave as a Virtual Oriented person in society.

CO 6: Attain skills in writing and speaking.

Department of Sanskrit

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	I	SAN 111 PPG	Prose, Poetry and Grammar

At the end of the course student will

CO1: Get a brief knowledge of Sanskrit literature

CO2: Understand the Sanskrit syntax through the grammar

CO3: Get the skills of pronunciation, reading, writing and reciting Sanskrit accurately and fluently.

CO4: Can analyze merit sand demerits of the society

CO5: Understand the structure of translation methods

CO6: Can study Sanskrit texts such as Ramayana, Mahabharata and Bhagavadgita which are the source of Indian culture and traditions

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	II	SAN 122 PPG	Prose, Poetry and Grammar

At the end of the course student will

CO1: Get a brief knowledge of Sanskrit literature

CO2: Understand the Sanskrit syntax through the grammar

CO3: Get the skills of pronunciation, reading, writing and reciting Sanskrit accurately and fluently.

CO4: Can analyze merits and demerits of the society

CO5: Understand the structure of translation methods

CO6: Can study Sanskrit texts such as Ramayana, Mahabharata and Bhagavad Gita which are the source of Indian culture and traditions

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	III & IV	SAN 233 DHS	Drama, Alankaras and History of Sanskrit Literature

At the end of the course student will

CO1**:** Get a brief knowledge of Sanskrit literature

CO2**:** Understand the Sanskrit syntax through the grammar

CO3**:** Get the skills of pronunciation, reading, writing and reciting Sanskrit accurately and fluently.

CO4**:** Can analyze merit and demerits of the society

CO5**:** Understand the structure of translations

CO6**:** Can study Sanskrit texts such as Ramayana, Mahabharata and Bhagavad Gita which are the source of Indian culture and traditions

Department of Computer Science

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	I	CSC111PPP	Problem Solving using Computers & Python Programming

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

CO 1: Learn to apply fundamental problem-solving techniques.

CO 2: Describe the core syntax and semantics of Python programming language.

CO 3: Learn and understand python looping, control statements and string manipulations.

CO 4: Define and demonstrate the use of built-in data structures lists, dictionaries, tuples and sets

CO 5: Understand the Python programming language and it's rich set of libraries, applications where Python programming is effective

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	II	CS122DS	Data Structures

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

CO 1: Understand available Data Structures for data storage and processing.

CO 2: Comprehend Data Structure and their real-time applications - Stack, Queue, Linked List, Trees and Graph

CO 3: Choose a suitable Data Structures for an application

CO 4: Develop ability to implement different Sorting and Search methods

CO 5: Have knowledge on Data Structures basic operations like insert, delete, search, update and traversal

CO 6: Design and develop programs using various data structures

CO 7: Implement the applications of algorithms for sorting, pattern matching etc

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	III	CS233DBMS	Database Management Systems

On completing the subject, students will be able to:

CO 1: Understand the fundamental concepts of DBMS with special emphasis on relational data model.

CO 2: Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database

CO 3: Model database using ER Diagrams and design database schemas based on the model.

CO 4: Create a small database using SQL.

CO 5: Store, Retrieve data in database.

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	IV	CSC244OS	Operating System

At the end of the course student will

CO 1: Know Computer system resources and the role of operating system in resource management with algorithms

CO 2: Understand Operating System Architectural design and its services.

CO 3: Gain knowledge of various types of operating systems including Unix and Android.

CO 4: Understand various process management concepts including scheduling, synchronization, and deadlocks. 5. Have a basic knowledge about multithreading.

CO 5: Comprehend different approaches for memory management.

CO 6: Understand and identify potential threats to operating systems and the security features design to guard against them.

CO 7: Specify objectives of modern operating systems and describe how operating systems have evolved over time.

CO 8: Describe the functions of a contemporary operating system

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	IV	CSC 245OPJ	Object Oriented Programming With Java

After successful completion of the course, the students are able to At the end of the course student will

CO 1: Understand the benefits of a well-structured program

CO 2: Understand different computer programming paradigms

CO 3: Understand underlying principles of Object-Oriented Programming in Java

CO 4: Develop problem-solving and programming skills using OOP concepts

CO 5: Develop the ability to solve real-world problems through software development in high-level programming languages like Java.

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	V	**CS356WDT**	**Web Interface Designing Technologies**

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

CO 1: Understand and appreciate the web architecture and services.

CO 2: Gain knowledge about various components of a website.

CO 3: Demonstrate skills regarding creation of a static website and an interface to dynamic website.

CO 4: Learn how to install word press and gain the knowledge of installing various plugins to use in their websites.

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	V	**CS356WDT(P)**	**Web Interface Designing Technologies LAB**

.On successful completion of this practical course, student shall be able to:

CO 1: Create a basic website with the help of HTML and CSS.

CO 2: Acquire the skill of installing word press and various plugins of Word press.

CO 3: Create a static website with the help of Word press.
CO 4: Create an interface for a dynamic website.
CO 5:Apply various themes for their websites using Word press.

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	V	CS357WAD(P)	**Web Applications Development using PHP & MYSQL LAB**

On successful completion of this practical course, student shall be able to:

- CO1: Write, debug and implement the Programs by applying concepts and error handling techniques of PHP.
- CO2: Create an interactive and dynamic website.
- CO3: Create a website with reports generated from a database.
- CO4: Write programs to create an interactive website for e-commerce sites like online shopping, etc.

Department of Statistics

(Revised CBCS 2020-23 Batch onwards)

Program	Semester	Course Code	Course Name
B. Sc., (MSP, MSCs)	I	STA111DSP	Descriptive Statistics & Theory of Probability

CO 1: Organize, manage and present data and to analyse statistical data graphically using frequency distributions and cumulative frequency distributions.

CO 2: Analyze statistical data using measures of central tendency, dispersion and location and to use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events

CO 3: Translate real-world problems into probability models and to derive the probability density function of transformation of random variables.

CO 4: Calculate probabilities and derive the marginal and conditional distributions of bi-variate random variables and to analyze Statistical data.

CO 5: Expectation of random variable and its properties and various function of random variable.

Life Skill Course:

Program	Semester	Course Code	Course Name
B.A.	I	LSC111ES	Elementary Statistics

CO 1: Understand the concept of Statistics and its merits and demerits. Distinguishing Primary and secondary data. Classification, Tabulation and Pictorial representation of data.

CO 2: Understand the basic nature of data and how a single value describes the entire data set. Measuring the degree of departure of a distribution from symmetry and Reveals the direction of scatteredness of the items.

CO 3: Understand the spread of the data and to draw conclusions from the comparison of averages. To understand the concept of correlation and regression and to learn the degree of Association between two variables and establishing relationship between the variables.

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MSCs)	II	STA112PD	Probability Distributions

CO 1: Develop problem-solving techniques needed to accurately calculate probabilities.

CO 2: Apply problem-solving techniques to solving real-world events.

CO 3: Apply selected probability distributions to solve problems.

CO 4: Equipping students with essential tools for statistical analyses at the graduate level.

CO 5: Fostering understanding through real-world statistical applications.

Skill Development Course:

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MSCs)	II	SDC112SAR	Survey and Reporting

COURSE OBJECTIVES: On successful completion of the course, students will be able to*;*

CO1: Understand the basics of survey and reporting needs and methods

CO2: Comprehend designing of a questionnaire

CO3: Conduct a simple and valid survey and Collect data

CO4: Organize and interpret data and Prepare and submit reports.

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MSCs)	III	STA233SMS	Statistical Methods & Exact Sampling Distributions

CO 1: Analyze the data pertaining to attributes and to interpret the results.

CO 2: To recognize and evaluate the relationship between two quantitative variables through simple linear correlation and regression.

CO 3: To understand the relationship between sample statistics and population parameters.

CO 4: Knowledge of interval estimation and estimation of parameters using the method of moments and MLE.

CO 5: To understand exact sampling distribution

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MSCs)	IV	STA244SI	Statistical Inference

CO 1: Advances knowledge of statistical modeling via point estimation, hypothesis testing and confidence intervals.

CO 2: Ability to convert various problems of practical interest into statistical models and make inference on it.

CO 3: Students will be able to discern the different aspects of statistical modeling.

CO 4: Able to understand the difference between parametric and non parametric tests and applications of various non parametric tests

CO 5: Ability to apply statistical concepts and statistical techniques with respect to the point estimation, hypothesis testing and confidence sets.

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MSCs)	IV	STA245AS	Statistical Inference

CO 1: Understand census data, Fertility and Mortality rates, standardized death rates, components of complete and abridged life tables, reproduction rates. Notation of population projection.

CO 2: Able to understand the different components of time series, analysis of time series data and measurement of trend and its applications.

CO 3: Analysis of time series data and measurement of seasonal variations – methods and its applications. Use of multiplicative model in measurement of seasonal fluctuations.

CO 4: Understanding the Concept of Index numbers, calculation of unweighted and weighted different index numbers for price and quantity, construction of cost of living index number and whole sale price index numbers.

CO 5: Understanding the Concept of demand and supply, price elasticities of supply and demand, methods

of determining demand and supply curves and Pareto law of income distribution curves of concentration

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MES, MSCs)	V	STA356OR	Operations Research

CO 1: Development of Operations Research(OR), Scope, Features and Management application of OR, Role of OR in decision making, Development of OR in India. Role of computers in OR.

CO 2: Understand the concept of Sequencing Problem, Johnson's algorithm for Processing n Jobs through two machines, processing n jobs through three machines, processing two jobs through m machines.

CO 3: Understand the concept of Assignment problem, Formulation of mathematical model and to solve Assignment problems with Hungarian method.

CO 4: Understand the concept of Transportation problem, Formulation of mathematical model and to find initial basic feasible solution and optimal solution using Modified Distribution method.

CO 5: Understand the concept of Competitive strategies, Principle of Minimax and Maximin rule, definitions of Saddle point, Payoff matrix, Zero Sum game and Value of the game, Dominance and modified dominance property and its applications.

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MES, MSCs)	VI	STA357BDR	Basic Statistical Data Analysis Using R

CO 1: Get basic knowledge on data types, functions and packages in R.

CO 2: Understand the functioning of the data in R

CO 3: Apply R-functions to data visualization.

CO 4: Generate statistical analysis viz., fitting of curves and probability distribution using R.

CO 5: Importing data and code editing, applying Hypothesis testing and generating statistical analysis.

(BIG DATA & ARTIFICIAL INTELLIGENCE)

Program	Semester	Course Code	Course Name
B. Sc., (Big data Analytics, Artificial Intelligence)	I	STA111SM	Statistical Methods

CO 1: Organize, manage and present data and to analyze statistical data graphically using frequency distributions and cumulative frequency distributions

CO 2: Concept of Principle of least squares and fitting of curves viz., polynomials, exponential and power curves

CO 3: Bivariate data- graphical representation, frequency distribution, conditional frequency distribution. Karl Pearson’s Correlation coefficient, Spearman’s Rank Correlation Coefficient and its properties.

CO 4: Regression line and its properties, diagnostics of regression line, Multiple correlation, Partial correlation and multiple regression lines for trivariate data

CO 5: Dealing attributive nature of data, classification and its frequencies, consistency, independency and association of attributes and their properties

Program	Semester	Course Code	Course Name
B. Sc.,(Big data Analytics, Artificial Intelligence)	II	STA112BPT	Basic Probability Theory

CO 1: Understand the basic concepts of probability, various definitions and axioms and discrete and continuous random variables

CO 2: Calculate probabilities, and derive the mathematical expectation, marginal and conditional distributions of bivariate random variables.

CO 3: Expectation of random variable and its properties and various functions of random variable.

CO 4: Concept of bivariate random variable and its joint and marginal probabilities. Properties of bivariate random variables. Applications of Cauchy Schwarz Inequality .

CO 5: Concept of weak law of large numbers, Bernoulli's Law of Large Numbers. Applications of Chebyshev's Inequality and central limit theorem

Program	Semester	Course Code	Course Name
B. Sc.,(Big data Analytics, Artificial Intelligence)	III	STA233PD	Probability Distributions

CO 1: Univariate discrete probability distributions viz., Bernoulli Binomial and Poisson distributions, properties and their applications

CO 2: Univariate discrete probability distributions viz., Negative Binomial, Geometric and Hypergeometic distributions, properties and their applications

CO 3: Univariate continuous probability distribution - Normal distribution properties and its applications, standard normal variate, problems on normal area property

CO 4: Univariate continuous probability distributions viz., Cauchy, Exponential, Gamma and Beta Hypergeometic distributions, properties and their applications

CO 5: Concept of population, sample, parameter and statistic. Sampling distribution of data and basic sampling distribution viz., t, F and Chi square and its properties and their interrelationships

Program	Semester	Course Code	Course Name
B. Sc.,(Bigdata Analytics, Artificial Intelligence)	IV	STA244ETH	Basic Theory of Estimation & Testing of Hypothesis

CO 1: Concept of Estimation –properties of good estimator and method of parametric estimation and confidence intervals

CO 2: Applications of large sample tests for variables and attributes and Fishers Z transformation and its applications

CO 3: Applications of small sample tests viz., t- test for single mean, equality of two means, paired observations and sample correlation coefficients,. F test for equality of two variances

CO 4: Chi-Square test for Goodness of fit and Independence of Attributes

CO 5: Able to understand the difference between parametric and non parametric tests and applications of various non parametric tests

Program	Semester	Course Code	Course Name
B. Sc.,(Big data Analytics, Artificial Intelligence)	V	STA355AS	Applied Statistics

CO 1: Concept of population and sample, census and sample survey, sampling errors, probability and non probability sampling techniques. Simple random sampling, Stratified and Systematic sampling and their properties

CO 2: Select and design an appropriate method of data collection for a research project; Apply basic principles in the design of simple experiments viz., ANOVA, CRD and RBD designs

CO 3: Able to understand the different components of time series, analysis of time series data and measurement of trend and its applications.

CO 4: Understanding the Concept of Index numbers, calculation of unweighted and weighted different index numbers for price and quantity, construction of cost of living index number and whole sale price index numbers.

CO 5: Idea of Statistical Quality Control (SQC), process and product control, 3 sigma limits and control charts for attributes and variables.

Department of Mathematics

Program	Semester	Course Code	Course Name
B. Sc (MPC, MSP, MSCs, MCsP, MECs)	I	MAT 111 DE	Differential Equations

At the end of the course student will

CO1: be able to find the General solution for the LDEs of first order.

CO2: be able to solve a given Differential Equation of first order but not of first degree and identify Clairaut's Equations.

CO3: be able to solve homogeneous LDEs of higher order with constant coefficients.

CO4: be able to solve second order LDEs with Variable coefficients.

CO5: be able to find Orthogonal Trajectories of a family of curves, be able to solve Simultaneous differential equations.

Program	Semester	Course Code	Course Name
B. Sc (MPC, MSP, MSCs, MCsP, MECs)	II	MAT 122 ASG	Analytical Solid Geometry

At the end of the course student will

CO 1: get the knowledge of various forms of planes, straight line, sphere, cone and cylinder.

CO 2: be able to find the angle between the planes, Bisector planes, perpendicular distance from a point to the plane, point of intersection of lines.

CO 3: be able to describe coplanar lines and compute angle between planes and lines.

CO 4: get the knowledge of skew lines and be able to find the shortest distance.

CO 5: be able to define the plane section of the sphere and to find the limiting points.

CO 6: be able to understand the concept of right circular cone and right circular cylinder.

Program	Semester	Course Code	Course Name
B. Sc (MPC, MSP, MSCs, MCsP, MECs) B.A (MSE)	III	MAT 233AA	Abstract Algebra

At the end of the course students will be able to:

CO 1: acquire the basic knowledge and structure of groups, subgroups and cyclic groups.

CO 2: get the significance of the notation of a normal subgroup.

CO 3: understand permutations in Group Theory and operations on them.

CO 4: study the homomorphisms and isomorphisms with applications.

CO 5: understand the basic concepts in ring theory.

CO 6: understand the applications of ring theory in various fields.

Program	Semester	Course code	Course Name
B.Sc., (M,BD,S)(M,AI,S)	III	MAT233DM	Discrete Mathematics

At the end of the course students will be

CO 1: able to apply principles and concepts of discrete mathematics in practical situations.

CO 2: able to Identify basic concepts of trees, rooted trees and boolean algebra expressions.

CO 3: able to compute the distance in graphs and weighted graphs.

CO 4: able to find a relation that is reflexive, anti symmetric and transitive.

CO 5: able to apply this knowledge in computer science applications.

CO 6: able to understand the various types of properties of sets and logical gates

Program	Semester	Course Code	Course Name
B. Sc (MPC, MSP, MSCs, MCsP, MECs) B.A (MSE)	IV	MAT244RA	Real Analysis

At the end of the course students will be able to:

CO 1: identify the behavior of a sequence by employing relevant results

CO 2: analyze the nature of a series by applying suitable test of convergence

CO 3: verify the continuity of a function and type of discontinuity

CO 4: apply the geometrical interpretation of differentiation and mean value theorems

CO 5: prove fundamental theorem and mean value theorems using the concept of Riemann integration

CO 6: solve problems in Real analysis using the inter dependability of continuity and differentiation of the real valued functions and Riemann integration of a bounded function.

Program	Semester	Course Code	Course Name
B. Sc (MPC, MSP, MSCs, MCsP, MECs) B.A (MSE)	IV	MAT 245 LA	Linear Algebra

At the end of the course student will

CO 1: understand the concepts of vector spaces, subspaces and their properties

CO 2: understand the concepts of basis, dimension and their properties

CO 3: understand the concepts of elementary matrix operations

CO 4: understand the concepts of linear transformations and their properties

CO 5: be able to describe the concepts of eigenvalue, eigenvector and characteristic polynomials

CO 6: understand the properties of inner product spaces and determine orthogonality in inner product spaces.

Program	Semester	Course Code	Course Name
B.Sc., (M,BD,S) (M,AI,S)	IV	MAT244NA	Numerical Analysis

At the end of the course students will be able CO

CO 1: gain basic knowledge in Numerical methods.

CO 2: use several methods of solving algebraic and transcendental equations of one variable.

CO 3: recognize the contribution and impacts of Numerical Analysis in real life problems.

CO 4: analyze and interpret information from a variety of sources relevant to Numerical Analysis.

CO 5: use information and communication technology to discuss problems relevant to Numerical Analysis.

Program	Semester	Course Code	Course Name
B.Sc., (M,BD,S)(M,AI, S)	V	MAT256NM	**NUMERICAL METHODS**

CO 1: understand the subject of various numerical methods that are used to obtain approximate solutions

CO 2: Understand various finite difference concepts and interpolation methods.

CO 3: Work out numerical differentiation and integration whenever and wherever routine methods are

not applicable.

CO 4: Find numerical solutions of ordinary differential equations by using various numerical methods.

CO 5: Analyze and evaluate the accuracy of numerical methods.

Program	Semester	Course Code	Course Name
B.Sc., (M,BD,S)(M,AI,S)	V	MAT257MSF	MATHEMATICAL PECIAL FUNCTIONS

CO 1: Students will gain a comprehensive understanding of special functions,

CO 2: Students will develop strong problem-solving skills by applying properties, transformations, and generating functions associated with special functions.

CO 3: Students will learn to create mathematical models for real-world phenomena using special functions.

CO 4: Students will master various analytical techniques, including orthogonal properties, recurrence relations, and generating functions.

CO 5: Students will be introduced to advanced mathematical concepts such as differential equations and integrals.

Program	Semester	Course Code	Course Name
B.Sc / B.A (Mathematics CC)	I	MAT CC QA	Quantitative Aptitude

At the end of the course student will be able to

CO 1: improve the basic Mathematical skills which will be useful in the preparation for any type of Competitive examination.

CO 2: Enhance the problem solving skills by developing a strong foundation in Mathematics.

CO 3: apply the skills and competencies acquired in the related areas.

CO 4: demonstrate number sense, including dimensional analysis and conversions between fractions, decimals, and percentages.

CO 5: determine when approximations are appropriate and when exact calculations

are necessary.

Department of Electronics

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	I	ELE111NAE	Network Analysis and Analog Electronics

At the end of the course student will

CO 1: Students will be able to know the basic concepts of an electrical circuit and can be able to analyze the networks

CO 2: Ability to solve different electrical circuits and using different solving methods

CO 3: Acquires the basic knowledge of physical and electrical conducting properties of semiconductor devices like diodes and their real time applications

CO 4: Demonstrate the ability to design practical circuits that perform the desired operations and will be able to interpret device applications

CO 5: Able to design various amplifier circuits using BJT and FET and observe their frequency of responses and applications.

CO 6: Integrate and apply a wide range of mathematical techniques to derive various differences between theoretical, practical & simulated results in electronic circuits

CO 7: Will be able to analyze, build, and troubleshoot electronic circuits using diodes and transistors

CO 8: Also, able to know a wide range of applications of transistors, feedback concepts and its applications as oscillators.

At the end of the course student will

CO 1: Understand generation of AC signal, different types of AC wave forms, and terms of AC signal, rectangular to polar and polar to rectangular conversions.

CO 2: Know about basic circuit elements and their behavior in DC circuits. Transient response of RC & RL in DC circuits.

CO 3: Analyses frequency response, Q- factor and band width of series and parallel resonant

circuits.

CO 4: Understand construction and working of Transformers & analysis line and load regulation in transformers.

CO 5: To identify different types of switches and select suitable switches for specific applications.

CO 6: Know the construction and working of DC linear motor, stepper motor, buzzer and loudspeaker.

CO 7: Identify different types of sensors, knows their sensing techniques of LDR, Thermistor, LPG, Load cell and LVDT.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	II	ELE123LDC	Linear and Digital Integrated Circuits

At the end of the course student will

CO 1: Understand the concepts needed to explain the basic electronics of logic circuits and be able to use integrated circuit packages.

CO 2: Analyze the fundamentals and areas of applications for the integrated circuits and analyze important types of integrated circuits.

CO 3: Demonstrate the ability to design practical circuits that perform the desired operations and will be
able to interpret logic functions, circuits, truth tables, and Boolean algebra expressions.

CO 4: Integrate and apply a wide range of mathematical techniques to derive various differences between theoretical, practical & simulated results in integrated circuits

CO 5: Will be able to analyze, build, and troubleshoot combinatorial circuits using digital integrated circuits

CO 6: Design, set up, and carry out experiments; analyze data, Select the appropriate integrated circuit modules to build a given application

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	II	ELE124PEP	PCB and Electronic Product Design

At the end of the course student will

CO 1: Understanding the Electrical & Electronic Components: Different Active and passive

Components and their Symbolic representations and notations, Electrical & Electronic circuit representations, Surface Mount Technology, Need for SMD, Surface Mount Semiconductor packages

CO 2: Understand the concepts needed to explain IPC standards block diagrams circuit Schematic representations, Circuit Documentation and Editing.

CO 3: Understand the evolution of PCBs, components of PCBs, Characteristics of PCB, Types of PCBs, IPC standards of PCBs, Terminology in PCB's PCB Design Techniques: Layout planning & Design – Block diagram, schematic diagram, General PCB design considerations, Artwork

CO 4: Understanding the Types of laminates, properties of laminates-electric, dielectric strength, dielectric break down properties, selection of copper clad laminate, Useful standards, PCB design check list Image transfer techniques, plating process, etching process. Conformal coating, drilling, solder mask.

CO 5: Analyze Production methods Lead Forming, lead Stand Offs, Lead Clinching styles, soldering, importance of soldering Eutectic Solder, Wetting Actions, Soldering tools- Soldering iron, solder, Cutter, flux, tweezer & Cleaning sponge,

CO 6: Equipment harness and testing Wire Harness and Crimping - Different types of wires and cables, different terminations, different connector styles, Different types of Lugs, Crimping methods, Lacing methods, Wire wrapping method Testing Methods – Module testing, Functional Testing, Routine testing, Environmental testing, Reliability testing.

Program	**Semester**	**Course Code**	**Course Name**
B.Sc. (MECS)	III	ELE235MP	Microprocessors

At the end of the course student will

CO 1: Describe the architecture of 8085 and 8086:

CO 2: Illustrate the organization of registers and memory in microprocessors.

CO 3: Differentiate Minimum and Maximum Mode bus cycle.

CO 4: Identify the addressing mode of an instruction.

CO 5: Develop programming skills in assembly language.

CO 6: Explain the need for different interfacing devices.

CO 7: Compare the concepts of CISC and RISC

processors.

CO 8: Recall and apply a basic concept of digital fundamentals to Microprocessor based personal computer system.

CO 9: Identify a detailed s/w & h/w structure of the Microprocessor.

CO 10: Illustrate how the different peripherals (8255, 8253 etc.) are interfaced withMicroprocessor.

CO 11: Train their practical knowledge through laboratory experiments.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	III	ELE236LDF	LED Lighting Design Fundamentals and Testing

At the end of the course student will

CO 1: Understand basics of LED technology and distinguish working principle of LED, incandescent, fluorescence, CFL and HID lamps.

CO 2: Know importance of proper thermal, electrical, mechanical and optical design of LED luminaires and interpretation of LED data sheets.

CO 3: Understand importance of secondary optics in LED luminaries and dependance of viewing angle, illuminance factor of a luminaire on secondary optics.

CO 4: Analyze role of diffuser in elimination of multiple source shadow effect of LED luminaire and minimizing glaring effect.

CO 5: Estimate viewing angle, Illuminance pattern and efficacy of a given luminaire.

CO 6: Design constant voltage, constant current power supplies with required power rating and protections.

CO 7: Estimate heat dissipation at different stages of LED luminaire- at junction, on PCB footprints, bottom of PCB and inside the enclosure. Thermal performance'

CO 8: Access LED luminaire electrically, thermally, optically and mechanically.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	IV	ELE247EI	Electronic Instrumentation

At the end of the course student will

CO 1: Measure various electrical parameters with accuracy, precision, resolution.

CO 2: Use AC and DC bridges for relevant parameter measurement.

CO 3: Select appropriate passive or active transducers for measurement of physical Phenomenon.

CO 4: Use Signal Generator, frequency counter, CRO and digital IC tester for Appropriate measurement.

CO 5: Test and troubleshoot electronic circuits using various measuring instruments. vi. Maintain various types of test and measuring instruments.

CO 6: Ability to identify, apply and distinguish sensor and transducers for measurement of Biological parameters in medical instrumentation systems.

CO 7: Ability to design, assemble, analyze, and evaluate basic circuits in medical Instrumentation.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	IV	ELE248SLA	Solid State Lighting Applications

At the end of the course student will

CO 1: Understand various photometric quantities, importance of these quantities in lighting applications.

CO 2: Identify different types of solid state luminaires and their applications. Suggested illuminance levels for various applications.

CO 3: Plan and design lighting for residential and retail areas, able to draw lighting design layout and able to evaluate lighting design.

CO 4: Plan and lighting design for any type of road, able to design lighting poles with arm inclination.

CO 5: Evaluate given light source electrically, optically and thermally. Estimate efficiency of given light source.

CO 6: Understand difference between rail and road signal lighting and evaluation

Design smart lighting control system with Wi-Fi, Bluetooth and IR communication.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	V	ELE359MCI	Micro Controller and Interfacing

At the end of the course student will

CO 1: Give an understanding about the concepts and basic architecture of 8051

CO 2: Provide an overview of difference between microprocessor and microcontroller

CO 3: Provide background knowledge and core expertise in microcontroller

CO 4: Study the architecture and addressing modes of 8051

CO 5: Impart knowledge about assembly language programs of 8051

CO 6: Help understand the importance of different peripheral devices & their interfacing to 8051

CO 7: Impart knowledge of different types of external interfaces including LEDS, LCD, Keypad Matrix, Switches & Seven segment display

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	V	ELE35XCS	Communicatio n Systems

At the end of the course student will

CO 1: Understand different modulation and demodulation techniques used in analog communication

Compare and contrast design issues, advantages, disadvantages and limitations of analog communication systems

CO 2: Apply knowledge in

A. Elements of Pulse and Digital Communication systems
B. Various types of pulse modulations
C. Digitization techniques such as PCM & DPCM
D. both the multiplexing techniques
E. Digital carrier modulation techniques ASK, FSK

CO 3: Overview of optical fiber communication system, its importance and applications

CO 4: To make students familiar with various generations of mobile communications 2G, 2: 5G, 3G with their characteristics and limitations.

A. To understand the concept of cellular communication
B. To understand the basics of wireless communication

CO 5: Understand GSM, CDMA concepts and architecture, frame structure, system capacity, services provided.

A. summarize the principles and applications of wireless systems and standards
B. Demonstrate an ability explain multiple access techniques for Wireless Communication

CO 6: Solve problems pertaining to modulation schemes, transmitters and receivers.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	VI	ELE36XIAMC	Advanced Microcontrollers

At the end of the course student will

CO 1: Importance of C in embedded systems, ANSI standards, fundamentals of C, data types, constants, formatted IO, loops, function, arrays and pointers.

CO 2: Understanding of PIC microcontroller, features of PIC, register organization, PIC reset actions, oscillator connections, PIC memory organization, PIC instructions, PIC addressing modes, I/O ports & interrupts, PIC timers, PIC ADC.

CO 3: Understand the ARM7TDMI, cortex –m0, m3, m4, multi core processors and feature trends, study of ARM cortex-m3 and core and controllers, introduction to firmware life cycle basics on firmware IDE's and their debugging & simulation technologies.

CO 4: Data communication, Serial communication, communication modes and interrupt programming.

CO 5: Introduction and interfacing controllers of wired & wireless communication UART, SPI, I2C, CAN interfacing Zigbee, wi-fi and Bluetooth.

CO 6: Understanding the basic concepts of sensors and actuators, cloud computing and atmega328 microcontrollers, Arduino platform, open source microcontroller platforms, Arduino board layout & architecture Arduino programming fundamentals, sensors interfacing with Arduino, temperature sensor, DHT11, Ultrasonic sensor and wi-fi.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	VI	ELE36XIIC1PE	Power Electronics

At the end of the course student will

CO 1: Will know about the generation of power electronics and family of thyristors

CO 2: Will know about the basic thyristor-SCR and its applications.

CO 3: Will know about other thyristors like diac, triac ,igbt, power MOSFET.

CO 4: Will know about the procedure to convert ac to dc as a chopper concept.

CO 5: Will know about single phase power supply and their types with and without reactive

feedback.

CO 6: Will know about the types of motor, their construction, thyristor-based motors.

Department of Electronic Technology

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	I	ELE111NAE	Network Analysis and Analog Electronics

At the end of the course student will

CO 1: Students will be able to know the basic concepts of an electrical circuit and can be able to analyze the networks

CO 2: Ability to solve different electrical circuits and using different solving methods

CO 3: Acquires the basic knowledge of physical and electrical conducting properties of semiconductor devices like diodes and their real time applications

CO 4: Demonstrate the ability to design practical circuits that perform the desired operations and will be able to interpret device applications

CO 5: Able to design various amplifier circuits using BJT and FET and observe their frequency of responses and applications.

CO 6: Integrate and apply a wide range of mathematical techniques to derive various differences between theoretical, practical & simulated results in electronic circuits

CO 7: Will be able to analyze, build, and troubleshoot electronic circuits using diodes and transistors

CO 8: Also, able know wide range of applications of transistors, feedback concepts and its applications as oscillators

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	I	ELE112FEC	Fundamentals of Electrical and Electronic Components

At the end of the course student will

CO 1: Understand generation of AC signal, different types of AC waveforms, and terms of AC signal, rectangular to polar and polar to rectangular conversions.

CO 2: Know about basic circuit elements and their behavior in DC circuits. Transient response of RC & RL in DC circuits.

CO 3: Analyses frequency response, Q- factor and bandwidth of series and parallel resonant circuits.

CO 4: Understand construction and working of Transformers & analyzes line and load regulation in transformers.

CO 5: To identify different types of switches and select suitable switches for specific applications.

CO 6: Know the construction and working of DC linear motor, stepper motor, buzzer and loudspeaker.

CO 7: Identify different types of sensors, know their sensing techniques of LDR, Thermistor, LPG, Load cell and LVDT.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	I	ELT111CE	Consumer Electronics

At the end of the course student will

CO 1: Will know about the Microwaves (Range used in Microwave Ovens), Microwave oven block diagram, LCD timer with alarm, Single Chip Controllers, Types of Microwave oven, Wiring and Safety instructions, Care and Cleaning.

CO 2: Will know about the Electronic controller for washing machines , Washing machine hardware and software, Types of washing machines , Fuzzy logic washing machines Features of washing machines.

CO 3: Will know about the Air Conditioning, Components of air conditioning systems, All water air conditioning systems, All air conditioning systems, Unitary and central air conditioning systems, Split air conditioners.

CO 4: Will know about the Facsimile machine, Xerographic copier, Calculators, Structure of a calculator, Internal Organization of a calculator, Servicing electronic calculators, Digital clocks, Block diagram of a digital clock.

CO 5: Will know about the Digital computer, Internet access , Online ticket reservation, Functions and networks, Barcode Scanner and decoder, Electronic Fund Transfer, Automated Teller Machines (ATMs) , Set-Top boxes , Digital cable TV, Video on demand.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	II	ELE123LDC	Linear and Digital Integrated Circuits

At the end of the course student will

CO 1: Understand the concepts needed to explain the basic electronics of logic circuits and be able to use integrated circuit packages.

CO 2: Analyze the fundamentals and areas of applications for the integrated circuits and analyze important types of integrated circuits.

CO 3: Demonstrate the ability to design practical circuits that perform the desired operations and will be
able to interpret logic functions, circuits, truth tables, and Boolean algebra expressions.

CO 4: Integrate and apply a wide range of mathematical techniques to derive various differences between theoretical, practical & simulated results in integrated circuits

CO 5: Will be able to analyze, build, and troubleshoot combinatorial circuits using digital integrated circuits

CO 6: Design, set up, and carry out experiments; analyze data, Select the appropriate integrated circuit modules to build a given application

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	II	ELE124PEP	PCB and Electronic Product Design

At the end of the course student will

CO 1: Understanding the Electrical & Electronic Components: Different Active and passive Components and their Symbolic representations and notations, Electrical & Electronic circuit representations, Surface Mount Technology, Need for SMD, Surface Mount Semiconductor packages

CO 2: Understand the concepts needed to explain IPC standards block diagrams circuit Schematic representations, Circuit Documentation and Editing.

CO 3: Understand the evolution of PCBs, components of PCBs, Characteristics of PCB, Types of PCBs, IPC standards of PCBs, Terminology in PCB's PCB Design Techniques: Layout planning & Design – Block diagram, schematic diagram, General PCB design considerations, Artwork

CO 4: Understanding the Types of laminates, properties of laminates-electric, dielectric strength,

dielectric break down properties, selection of copper clad laminate, Useful standards, PCB design checklist Image transfer techniques, plating process, etching process. Conformal coating, drilling, solder mask.

CO 5: Analyze Production methods Lead Forming, lead Stand Offs, Lead Clinching styles, soldering, importance of soldering Eutectic Solder, Wetting Actions, Soldering tools- Soldering iron, solder, Cutter, flux, tweezer & Cleaning sponge,

CO 6: Equipment harness and testing Wire Harness and Crimping - Different types of wires and cables, different terminations, different connector styles, Different types of Lugs, Crimping methods, Lacing methods, Wire wrapping method Testing Methods – Module testing, Functional Testing, Routine testing, Environmental testing, Reliability testing.

Program	**Semester**	**Course Code**	**Course Name**
B.Sc.(ELE CS)	II	ELT122PMT	PC Maintenance and Trouble Shooting

At the end of the course student will

CO 1: Will know about the generations of computers based on technology, what things he/she sees inside the central processing cabin, and different types of input and out devices.

CO 2: Will know about motherboard design, different types of components presented on the motherboard and internal process of motherboard.

CO 3: Will know about different ports and their communication between inputs, output devices with the CPU section.

CO 4: Will know about different power connection sockets and their importance and different ways to apply power to the computers.

CO 5: Will know about different types of memory and storage devices with internal structures.

CO 6: Will know how to assemble a personal computer and installation procedures of operating systems and applications with examples like windows XP, MS office etc.

Program	**Semester**	**Course Code**	**Course Name**
B.Sc.(ELE CS)	III	ELE235MP	Microprocessors

At the end of the course student will

CO 1: Describe the architecture of 8085 and 8086:

CO 2: Illustrate the organization of registers and memory in microprocessors.

CO 3: Differentiate Minimum and Maximum Mode bus cycle.

CO 4: Identify the addressing mode of an instruction.

CO 5: Develop programming skills in assembly language.

CO 6: Explain the need for different interfacing devices.

CO 7: Compare the concepts of CISC and RISC processors.

CO 8: Recall and apply a basic concept of digital fundamentals to Microprocessor based personal computer systems.

CO 9: Identify a detailed s/w & h/w structure of the Microprocessor.

CO 10: Illustrate how the different peripherals (8255, 8253 etc.) are interfaced with Microprocessor.

CO 11: Train their practical knowledge through laboratory experiments.

Program	**Semester**	**Course Code**	**Course Name**
B.Sc.(ELE CS)	III	ELE236LDF	LED Lighting Design Fundamentals and Testing

At the end of the course student will

CO 1: Understand basics of LED technology and distinguish working principle of LED, incandescent, fluorescence, CFL and HID lamps.

CO 2: Know importance of proper thermal, electrical, mechanical and optical design of LED luminaires and interpretation of LED data sheets.

CO 3: Understand importance of secondary optics in LED luminaries and dependence of viewing angle, illuminance factor of a luminaire on secondary optics.

CO 4: Analyze role of diffuser in elimination of multiple source shadow effect of LED luminaire and minimizing glaring effect.

CO 5: Estimate viewing angle, Illuminance pattern and efficacy of a given luminaire.

CO 6: Design constant voltage, constant current power supplies with required power rating and protections.

CO 7: Estimate heat dissipation at different stages of LED luminaire- at junction, on PCB footprints, bottom of PCB and inside the enclosure. Thermal performance'

CO 8: Access LED luminaire electrically, thermally, optically and mechanically.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	III	ELT233BN	Basics of Networks

At the end of the course student will

CO 1: Know about Computer Network basics and types of Networking, different types of Network Topologies. Definitions and introduction of Internet, Ethernet, Wi-Fi, Bluetooth, Mobile Networking, Wire and wireless Networking.

CO 2: Know about Communication Media & Connectors and different types of cable. Understand color codes of CAT5 cable.

CO 3: Know about Data Communication types of Communication and Serial port Checking Software in both terminal and nonterminal methods.

CO 4: Know about Sessions and presentation aspects of DNS, Telnet, rlogin, FTP, SMTP – WWW Basics of Firewalls

CO 5: Packet switching networks, Frame Relay networks, Asynchronous transfer mode ATM in detail.

CO 6: Know about different types of Networking Components like Hubs, Bridges, Gateways.

CO 7: How to address, types of addressing, Subnetting , types of subnetting, Domain, types of domain.

CO 8: Know about networking protocols.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	IV	ELE247EI	Electronic Instrumentation

At the end of the course student will

CO 1: Measure various electrical parameters with accuracy, precision, resolution.

CO 2: Use AC and DC bridges for relevant parameter measurement.

CO 3: Select appropriate passive or active transducers for measurement of physical Phenomenon.

CO 4: Use Signal Generator, frequency counter, CRO and digital IC tester

for Appropriate measurement.

CO 5: Test and troubleshoot electronic circuits using various measuring instruments. vi. Maintain various types of test and measuring instruments.

CO 6: Ability to identify, apply and distinguish sensor and transducers for measurement of Biological parameters in medical instrumentation systems.

CO 7: Ability to design, assemble, analyze, and evaluate basic circuits in medical Instrumentation.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	IV	ELE248SLA	Solid State Lighting Applications

At the end of the course student will

CO 1: Understand various photometric quantities, importance of these quantities in lighting applications.

CO 2: Identify different types of solid state luminaires and their applications. Suggested illuminance levels for various applications.

CO 3: Plan and design lighting for residential and retail areas, able to draw lighting design layout and able to evaluate lighting design.

CO 4: Plan and lighting design for any type of road, able to design lighting poles with arm inclination.

CO 5: Evaluate given light source electrically, optically and thermally. Estimate efficiency of given light source.

CO 6: Understand difference between rail and road signal lighting and evaluation

Design smart lighting control system with Wi-Fi, Bluetooth and IR communicatio

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	IV	ELE249MCI	Microcontroller and Interfacing

At the end of the course student will

CO 1: Give an understanding about the concepts and basic architecture of 8051

CO 2: Provide an overview of difference between microprocessor and microcontroller

CO 3: Provide background knowledge and core expertise in microcontroller

CO 4: Study the architecture and addressing modes of 8051

CO 5: Impart knowledge about assembly language programs of 8051

CO 6: Help understand the importance of different peripheral devices & their interfacing to 8051

CO 7: Impart knowledge of different types of external interfaces including LEDS, LCD, Keypad Matrix, Switches & Seven segment display

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	IV	ELT244CNS	Computer Networks and Network Security

At the end of the course student will

CO 1: Know about implementing a computer network mainly on fundamentals of wireless network, performance, Wireless Network Structure and components, Difference between Wired and Wireless Network

CO 2: Know about Packet switching and circuit switching and different types of data processing methods

CO 3: Know about Hardware upgrade, Software upgrades and Network upgrades

CO 4: Know about Backing up network data- different types of Backups, scheduling backups, backing up and restoring data.

CO 5: Know about Network security, Authentication and authorization, user level security and share level security. Auditing and configuring auditing audit policy.

CO 6: Know about Firewall-architecture of firewall, types of firewalls, internet protocol security-enabling Internet Protocol Security (IP Sec) on windows 2000 server.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	V	ELE35XCS	Communication Systems

At the end of the course student will

CO 1: Understand different modulation and demodulation techniques used in analog communication

A. Analyze transmitter and receiver circuits

B. Compare and contrast design issues, advantages, disadvantages and limitations of

analog communication systems

CO 2: Apply knowledge in

A. Elements of Pulse and Digital Communication systems

B. Various types of pulse modulations

C. Digitization techniques such as PCM & DPCM

D. both the multiplexing techniques

E. Digital carrier modulation techniques ASK, FSK

CO 3: Overview of optical fiber communication system, its importance and applications

CO 4: To make students familiar with various generations of mobile communications 2G, 2: 5G, 3G with their characteristics and limitations.

A. To understand the concept of cellular communication

B. To understand the basics of wireless communication

CO 5: Understand GSM, CDMA concepts and architecture, frame structure, system capacity, services provided.

A. summarize the principles and applications of wireless systems and standards

B. Demonstrate an ability explain multiple access techniques for Wireless Communication

CO 6: Solve problems pertaining to modulation schemes, transmitters and receivers.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	V	ELE35XIAMC	Advanced Microcontrollers

At the end of the course student will

CO 1: Importance of C in embedded systems, ANSI standards, fundamentals of C, data types, constants, formatted IO, loops, function, arrays and pointers.

CO 2: Understanding of PIC microcontroller, features of PIC, register organization, PIC reset actions, oscillator connections, PIC memory organization, PIC instructions, PIC addressing modes, I/O ports & interrupts, PIC timers, PIC ADC.

CO 3: Understand the ARM7TDMI, cortex –m0, m3: m4, multi core processors and feature trends, study of ARM cortex-m3 and core and controllers, introduction to firmware life cycle basics on firmware IDE's and their debugging & simulation technologies.

CO 4: Data communication, Serial communication, communication modes and interrupt programming.

CO 5: Introduction and interfacing controllers of wired & wireless communication UART, SPI, I2C, CAN interfacing Zigbee, wi-fi and Bluetooth.

CO 6: Understanding the basic concepts of sensors and actuators, cloud computing and atmega328 microcontrollers, Arduino platform, open source microcontroller platforms, Arduino board layout & architecture Arduino programming fundamentals, sensors interfacing with Arduino, temperature sensor, DHT11, Ultrasonic sensor and wi-fi

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	V	ELE35XIIPE	Power Electronics

At the end of the course student will

CO 1: Will know about the generation of power electronics and family of thyristors

CO 2: Will know about the basic thyristor-SCR and its applications.

CO 3: Will know about other thyristors like diac, triac ,igbt, power MOSFET.

CO 4: Will know about the procedure to convert ac to dc as a chopper concept.

CO 5: Will know about single phase power supply and their types with and without reactive feedback.

CO 6: Will know about the types of motor, their construction, thyristor-based motors

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	V	ELE35XIIIRES	Renewable Energy Sources

At the end of the course student will

CO 1: Identify energy demand and relate with available energy resources. Describe the environmental aspects of non-conventional energy resources. In Comparison with various conventional energy systems, their prospects and limitations. Know the need of renewable energy resources, historical and latest developments.

CO 2: Estimate the solar energy, Utilization of it, Principles involved in solar energy collection and conversion of it to electricity generation with respect to applications like - heating, cooling, desalination, power generation, drying, cooking etc.

CO 3: Explore the concepts involved in wind energy conversion system by studying its components used in energy generation and know the classifications, types and performance.

CO 4: Illustrate Ocean energy and explain the operational methods of their utilization.

CO 5: Acquire the knowledge on Geothermal energy.

CO 6: Solve problems pertaining to modulation schemes, transmitters and receivers.

CO 7: Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.

Program	Semester	Course Code	Course Name
B.Sc.	I	PHY111MWO	MECHANICS WAVES AND OSCILLATIONS

At the end of the course student will

CO 1: Understand Newton's laws of motion and motion of variable mass system and its application to rocket motion and the concepts of impact parameter, scattering cross section.

CO 2: Apply the rotational kinematic relations, the principle and working of gyroscope and it applications and the precessional motion of a freely rotating symmetric top.

CO 3: Comprehend the general characteristics of central forces and the application of Kepler's laws to describe the motion of planets and satellite in circular orbit through the study of law of Gravitation.

CO 4: Understand postulates of Special theory of relativity and its consequences such as length contraction, time dilation, relativistic mass and mass-energy equivalence.

CO 5: Examine phenomena of simple harmonic motion and the distinction between undamped, damped and forced oscillations and the concepts of resonance and quality factor with reference to damped harmonic oscillator.

CO 6: Evaluation of Fourier constants and the analysis of square wave and Saw-tooth wave using Fourier's theorem.

CO 7: Figure out the formation of harmonics and overtones in a stretched string and acquire the knowledge on Ultrasonic waves, their production and detection and their applications in different fields.

Program	Semester	Course Code	Course Name

B.Sc.	II	**SDC122SE**	ELECTRICAL APPLIANCES

By successful completion of the course, students will be able to:

CO 1: Acquire necessary skills/hand on experience/ working knowledge on multimeters, galvanometers, ammeters, voltmeters, ac/dc generators, motors, transformers, single phase and three phase connections, basics of electrical wiring with electrical protection devices.

CO 2: Understand the working principles of different household domestic appliances.

CO 3: Check the electrical connections at house-hold but will also learn the skill to repair the electrical appliances for the general trouble -hoots and wiring faults.

Program	Semester	Course Code	Course Name
B.Sc.	II	**PHY122WO**	OPTICS

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

CO 1: Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude.

CO 2: Distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating.

CO 3: Describe the construction and working of the zone plate and make the comparison of the zone plate with a convex lens.

CO 4: Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity.

CO 5: Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields.

CO 6: Explain about the different aberrations in lenses and discuss the methods of minimizing them.

CO 7: Understand the basic principles of fiber optic communication and explore the field of Holography and Nonlinear optics and their applications

Program	Semester	Course Code	Course Name
B.Sc.	II	**PHY121SE**	SOLAR ENERGY

After successful completion of the course, students will be able to:

CO 1: Acquire knowledge on solar radiation principles with respect to solar energy estimation.

CO 2: Get familiarized with various collecting techniques of solar energy and its storage

CO 3: Learn the solar photovoltaic technology principles and different types of solar cells for energy conversion and different photovoltaic applications.

CO 4: Understand the working principles of several solar appliances like Solar cookers, Solar hot water systems, Solar dryers, Solar Distillation, Solar greenhouses

Program	Semester	Course Code	Course Name
B.Sc.	III	**PHY233TH**	**THERMODYNAMICS**

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

CO 1: Understand the basic aspects of kinetic theory of gasses, Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions and the transport phenomenon in ideal gasses

CO 2: Gain knowledge on the basic concepts of thermodynamics, the first and the second law of thermodynamics, the basic principles of refrigeration, the concept of entropy ,the thermodynamic potentials and their physical interpretations.

CO 3: Understand the working of Carnot' s ideal heat engine, Carnot cycle and its efficiency

CO 4: Develop critical understanding of the concept of Thermodynamic potentials, the formulation of Maxwell's equations and its applications.

CO 5: Differentiate between principles and methods to produce low temperature and liquefy air and also understand the practical applications of substances at low temperatures.

CO 6: Examine the nature of black body radiations and the basic theories.

Program	Semester	Course Code	Course Name
B.Sc.	IV	**PHY244EME**	**ELECTRICITY MAGNETISM & ELECTRONICS**

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

CO 1: Apply knowledge of electricity and magnetism to explain natural physical processes and related technological advances.

CO 2: Use an understanding of calculus along with physical principles to effectively solve problems encountered in everyday life, further study in science, and in the professional world.

CO 3: Design experiments and acquire data in order to explore physical principles, effectively communicate results, and critically evaluate related scientific studies.

CO 4: Assess the contributions of physics to our evolving understanding of global change and sustainability while placing the development of physics in its historical and cultural context.

CO 5: Understand electric and magnetic fields in matter

CO 6: Apply Maxwell's equations to various physical problems

CO 7: Calculate EM wave propagation

Program	Semester	Course Code	Course Name
B.Sc.	IV	**PHY245MP**	**MODERN PHYSICS**

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

CO 1: Develop an understanding on the concepts of Atomic and Modern Physics, basic elementary quantum mechanics and nuclear physics.

CO 2: Develop critical understanding of concept of Matter waves and Uncertainty principle.

CO 3: Get familiarized with the principles of quantum mechanics and the formulation of Schrodinger wave equation and its applications.

CO 4: Examine the basic properties of nuclei, characteristics of Nuclear forces, salient features of Nuclear models and different nuclear radiation detectors.

CO 5: Classify Elementary particles based on their mass, charge, spin, half life and interaction.

CO 6: Get familiarized with the nano materials, their unique properties and applications.

CO 7: Increase the awareness and appreciation of superconductors and their practical applications.

Program	Semester	Course Code	Course Name
B.Sc.	V	**PHY356EE**	**APPLICATIONS OF ELECTRICITY & ELECTRONICS**

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

CO 1: Define, state and explain various Electronic components, batteries, AC & DC generators, Modulations techniques, Transformers etc

CO 2: Understand the concepts needed to explain charging and discharging of capacitors understand the applications of thermodynamics in other disciplines like materials science and chemistry.

CO 3: Apply the laws of thermodynamics to real physical systems and processes, isothermal and adiabatic processes to heat engines, Maxwell's relations to latent and specific heat calculations and adiabatic demagnetization technique for cooling expressions.

CO 4: Integrate and apply a wide range of mathematical techniques to derive various thermodynamic laws and principles and for analyzing and solving problems in thermal physics.

CO 5: Analyze radiation phenomena in thermodynamic systems, radiation principles in designing pyrometers, Carnot's cycle in designing automobile engines, transport phenomena in process industries with reference to fluids and fluid mixtures.

CO 6: Design, set up, and carry out experiments; analyze data, compare with theoretical predictions and understand the orders of magnitudes of various quantities.

Program	Semester	Course Code	Course Name
B.Sc.	V	**PHY35EI**	**ELECTRONIC INSTRUMENTATION**

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

CO 1: Students will be able to understand the fundamental concepts of measurements, differentiate between analog and digital instruments, and analyze sources of errors in measurements. They will also gain proficiency in using analog and digital multimeters, comprehend their specifications, and identify the significance of instrument accuracy and sensitivity in practical applications.

CO 2: Upon completion of this unit, students will acquire a comprehensive understanding of cathode ray oscilloscopes, including their principles, functioning, and various controls. They will be capable of utilizing oscilloscopes to measure DC and AC voltages, frequencies, and time periods. Additionally, students will gain knowledge about different types of oscilloscopes and their specific applications, including digital storage oscilloscopes.

CO 3: Students will be proficient in working with various transducers, such as LVDT, resistive, capacitive, inductive, and piezo-electric transducers. They will also have a deep understanding of different types of bridges, including Wheatstone's bridge, Maxwell's bridge, Schering bridge, and Wien's bridge. Students will be able to measure inductance, capacitance, and frequency accurately using these bridge circuits.

CO 4: After completing this unit, students will be skilled in designing and analyzing A/D and D/A converters, specifically understanding binary ladder and successive approximation types. They will also comprehend the principles of operation for display devices, including LED displays, seven-segment displays, and liquid crystal displays. Students will be capable of identifying the limitations of SSDs and exploring practical applications of LCD modules.

CO 5: Students will have a deep understanding of amplifier classification, including RC-coupled amplifiers and their frequency response characteristics. They will be proficient in analyzing feedback in electronic circuits, understanding positive and negative feedback, gains expressions, and the advantages of negative feedback. Additionally, students will comprehend the basic operating principles and applications of biomedical instruments such as ECG machines, radiography, ultrasound scanning, ventilators, and pulse oximeters.

Program	Semester	Course Code	Course Name
B.Sc.	I	**CC111PEL**	PHYSICS OF EVERYDAY LIFE

Students will understand

CO 1: The importance of applications of Applied Physics in daily life

CO 2: The cause behind the relative change in motion of fluids

CO 3: The relationship between physics & technology

CO 4: To have questions & analyze the world around them

CO 5: to make students think and have abstract thinking

Department of Botany

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	I	**BOT111FMN**	Fundamentals of Microbes and Non -vascular Plants.

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

CO 1: Understand the classification of Micro organisms. Understand the Origin and Evolution of Life. Understand the general characters of special groups of Bacteria and their Importance.

CO 2: Understand the structure, replication Viruses and transmission of Plant viral diseases and their control.

CO 3: Understand and identify the structure and metabolic processes like mode of Nutrition, reproduction and economic importance in Bacteria.

CO 4: Understand and identify morphological characters, reproduction in algae(Oedogonium, Ectocarpus and Polysiphonia), classification and economic importance of Algae.

CO 5: Understand and identify morphological characters, reproduction in Rhizopus, Penicillium, Puccinia, Classification of Fungi and Economic Importance.

Understand and differentiate the structure of Lichens and their Economic Importance.

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	II	BOT122BVP	Basics of Vascular plants and Phytogeography

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

CO 1: Understand the general characters and classification of vascular plants and realize the structure of representative examples. Understand the evolutionary process

CO 2: Understand the general characters and classification of and realize the structure of representative examples

CO 3: Understand the general characters and classification of Gymnosperms and realize the structure

of representative examples. To gain knowledge about life cycles of Gymnosperm plants.

CO 4: To gain knowledge of phytogeography

CO 5: To gain knowledge of geographical distribution, factors.

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	III	BOT233AEAP	Anatomy, Embryology of Angiosperms, Ecology and Biodiversity

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

CO 1: Understand the general characters and classification of Bryophytes and realize the structure of representative examples. Understand the evolutionary process of Sporophyte in Bryophytes..

CO 2: Understand the general characters and classification of Pteridophytes and realize the structure of representative examples.

CO 3: Understand the general characters and classification of Gymnosperms and realize the structure of representative examples.

CO 4: To gain knowledge of Plant cells, tissues and their functions.

CO 5: Understand the Process of Normal secondary growth and Anomalous secondary growth and realize the structure of representative examples. To gain knowledge of locally available timber plants and their economic importance

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	IV	BOT244PPM	Plant Physiology & Metabolism

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

CO 1: Understand the importance of water, Understand the physical properties of water Gain knowledge on transpiration, ascent of sap etc.

CO 2: Understand the importance of ions, ionic absorption, Understand the role of nutrients and symptoms, Understand the nitrogen fixation mechanism

CO 3: Understand and explore about the structure and functions of Chloroplast and Understand carbon fixation mechanisms Understand the path of organic solutes

CO 4: Understand the importance of respiration and its types,

Understand the aerobic and anaerobic methods - glycolysis, Krebs cycle and EMP Path ways ,Understand the lipid mechanism

CO 5: Understand the plant growth and its parameters, Understand the types and role of phytohormones and physiology of flowering Understand the ageing and senescence mechanism

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	IV	BOT245CGP	Cell Biology, Genetics & Plant Breeding

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

CO 1: Gain the knowledge of Cell , type and structure of cells, Ultra structure of cell wall and plasma membrane and Polymorphic cell organelles

CO 2: Understand the structure and morphology of chromosomes,

Understand the Euchromatin and Heterochromatin; Karyotype and ideogram Gain knowledge about chromosomal aberrations and Organization of DNA in a chromosome.

CO 3: Gain the basic knowledge about Mendel's laws of inheritance. Incomplete dominance and codominance; Multiple allelism. Understand the nature of Complementary, supplementary and duplicate gene interactions. Understand the Linkage, crossing over

CO 4: Understand the Watson and Crick model of DNA and Replication

Gain knowledge about Transcription, types and functions of RNA. Gene concept and genetic code and Translation. Understand the mechanism Regulation of gene expression in prokaryotes

CO 5: Understand the application of principles and modern techniques in plant breeding. Explain the procedures of selection and hybridization for improvement of crops. Understand the importance and role of molecular breeding in Agriculture Improvement (RAPD, RFLP).

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	V	BOT356TC	TISSUE CULTURE

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

CO 1: Comprehend the basic knowledge and applications of plant tissue culture.

CO 2: Identify various facilities required to set up a plant tissue culture laboratory.

CO 3: Acquire critical knowledge on sterilization techniques related to plant tissue culture.

CO 3: Demonstrate skills of callus culture through hands-on experience.

CO 5: Understand the biotransformation technique for production of secondary metabolites.

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	V	BOT357MC	MUSHROOM CULTIVATION

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

CO 1: Understand the structure and life of a mushroom and discriminate edible

CO 2: Identify the basic infrastructure to establish a mushroom culture unit.

CO 3: Demonstrate skills in preparation of compost and spawn.

CO 4: Acquire critical knowledge on cultivation of some edible mushrooms.

CO 5: Explain the methods of storage, preparation of value-added products and marketing. different types of casing mixtures, commonly used materials.

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	I	SDC111PN	PLANT NURSARY

On successful completion of the course, students will be able to

CO 1: Gain the knowledge of different types of Nurseries, Plant Propagation, Management of Nurseries and Economics of Nurseries

CO 2: Understand the importance of a Plant Nursery and Basic Infrastructure to establish a Nursery.

CO 3: Learn to use the tools and techniques required for a Nursery.

CO 4: Obtain skills to get employment or become an entrepreneur in the Plant Nursery sector.

CO 5: Gain expertise related to various practices in a Nursery.

Department of Commerce (General/Computers)

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(GENERAL, COMPUTERS)	I	COM111FOA	FUNDAMENTALS OF ACCOUNTING

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

CO 1 To develop conceptual understanding of fundamentals of financial accounting system & to impart skills in accounting for various kinds of business transactions.

CO 2 To understand knowledge of new trends in corporate accounting, preparation of subsidiary books, bank reconciliation statements, final accounts.

CO 3 To develop the skills of recording financial transactions & preparation of reports using accounting packages tally etc.

CO 4 Enables students to pursue professional courses like CA, CMA & CS.

CO 5 Students will be ready for employment in functional areas of accounting.

CO 6 Each student shall understand economic and industry issues and role of accounting within that environment

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(GENERAL, COMPUTERS)	I	COM111FOA	FUNDAMENTALS OF ACCOUNTING

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

CO 1 To develop conceptual understanding of fundamentals of the financial accounting system & to impart skills in accounting for various kinds of business transactions.

CO 2 To understand knowledge of new trends in corporate accounting, preparation of subsidiary books, bank reconciliation statements, and final accounts.

CO 3 To develop the skills of recording financial transactions & preparation of reports using accounting packages tally etc.

CO 4 Enables students to pursue professional courses like CA,CMA & CS.

CO 5 Students will be ready for employment in functional areas of accounting.

CO 6 Each student shall understand economic and industry issues and role of accounting within that environment

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	I	COM111BOM	BUSINESS ORGANISATION AND MANAGEMENT

At the end of the course student will:

CO 1: At the end of the course, the student will be able to understand different forms of business organizations.

CO 2: Comprehend the nature of Joint Stock Company and formalities to promote a Company. Describe the Social Responsibility of Business towards the society.

CO 3: Critically examine the various organizations of the business firms and judge the best among them.

CO 4: Design and plan to register a business firm.

CO 5: Prepare different documents to register a company at his own. Articulate new models of business organizations

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	I	COM111BOM	BUSINESS ORGANISATION AND MANAGEMENT

At the end of the course student will:

CO 1: At the end of the course, the student will be able to understand different forms of business organizations.

CO 2: Comprehend the nature of Joint Stock Company and formalities to promote a Company. Describe the Social Responsibility of Business towards the society.

CO 3: Critically examine the various organizations of the business firms and judge the best among them.

CO 4: Design and plan to register a business firm.

CO 5: Prepare different documents to register a company at his own. Articulate new models of business organizations

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	I	SDC111OS	OFFICE SECRETARYSHIP

By the successful completion of course, the student will be able to;

CO1. Understand the organizational hierarchy and outlines of functioning

CO2. Comprehend the role of office secretary ship in a small and medium organization

CO3. Acquire knowledge on office procedures and interpersonal skills

CO4. Apply the skills in preparing and presenting notes, letters, statements, reports in different situations.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	I	SDC111OS	OFFICE SECRETARYSHIP

By the successful completion of course, the student will be able to;

CO1. Understand the organizational hierarchy and outlines of functioning

CO2. Comprehend the role of office secretary ship in a small and medium organization

CO3. Acquire knowledge on office procedures and interpersonal skills

CO4. Apply the skills in preparing and presenting notes, letters, statements, reports in different situations.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	I	COM111BENV	BUSINESS ENVIRONMENT

At the end of the course, the student will able to;

CO 1 Understand the concept of the business environment.

CO 2 Define Internal and External elements affecting business environment.

CO 3 Explain the economic trends and its effect on Government policies.

CO 4 Critically examines the recent developments in economic and business policies of the Government.

CO 5 Evaluate and judge the best business policies in Indian business environment.

CO 6 Develop the new ideas for creating good business environment

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	II	COM121BTP	BANKING

At the end of the course student will:

Co 1: To have basic institutional and practical knowledge supported by text books including up-to-date information in the field of Banking.

CO 2: To carry out financial analysis of banks and insurance companies

CO 3: To express their opinions about banking and insurance in written and oral form, based on the basic knowledge and skills they acquire.

CO 4: Apply their knowledge and skills to demonstrate autonomy, expert judgment, adaptability and responsibility as a practitioner and learner in the field of banking and finance law.

CO 5**:** Advanced working skills in the use of new technology

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com (GENERAL, COMPUTERS)	II	COM122FA	FINANCIAL ACCOUNTING

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

CO 1 To develop conceptual understanding of fundamentals of financial accounting system & to impart skills in accounting for various kinds of business transactions.

CO 2 To understand knowledge of new trends in Consignment business, different methods in depreciation, joint venture business and bills of exchange.

CO 3 To develop the skills of recording consignment accounts, writing of bills of exchange, joint venture business accounts.

CO 4 Enables students to pursue professional courses like CA,CMA & CS.

CO 5 Students will be ready for employment in functional areas of accounting.

CO 6 Each student shall understand economic and industry issues and role of accounting within that environment

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	II	SDC121AD	ADVERTISING

On completion of this course, the students will be able to

CO1: provide basic knowledge to the students about various internal & external factors which influence the ADVERTISING

CO 2: know about economic growth and development of advertising

CO3: To provide basic knowledge to the students about types of advertising

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL, COMPUTERS)	II	COM121BPP	**Banking procedure and practice**

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

CO 1 Make the students aware of the fundamentals of banking and knowledge of banking operations.

CO 2 Relate the Regulation of Indian Banking Act 1949 and their Progress & performance

CO 3 Apply the impart knowledge about functions, role and monetary policy of Reserve Bank of India

CO 4 Acquaint the students with Bank Nationalization Process and its effects

CO 5 To make them understand about various foreign exchanges across the globe Analysis the Role and organization structure of Indian banking system

CO 6 To identify the risk faced by the Industry and Banks in the International Market. Demonstrate the techniques of banking and finance in real· time scenarios

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	II	SDC121AD	ADVERTISING

On completion of this course, the students will be able to

CO1: provide basic knowledge to the students about various internal & external factors which influence the ADVERTISING

CO 2: know about economic growth and development of advertising

CO3: To provide basic knowledge to the students about types of advertising

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	II	SDC122LSC	LOGISTICS AND SUPPLY CHAIN MANAGEMENT

At the end of the course student will:

CO 1 Summarize relationship between marketing and Logistic Management

CO 2 Understand the concepts of Supply Chain Management in connection with products.

CO 3 Understanding various types of seller and suppliers

CO 4 Evaluate best logistic method among all means of transport operations

CO 5 Analysis of different distribution strategies - online and physical distribution

CO 6 Design and develop new methods and models of Logistics in SCM

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	II	SDC122LSC	LOGISTICS AND SUPPLY CHAIN MANAGEMENT

At the end of the course student will:

CO 1 Summarize relationship between marketing and Logistic Management

CO 2 Understand the concepts of Supply Chain Management in connection with products.

CO 3 Understanding various types of seller and suppliers

CO 4 Evaluate best logistic method among all means of transport operations

CO 5 Analysis of different distribution strategies - online and physical distribution

CO 6 Design and develop new methods and models of Logistics in SCM

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	II	LSC121ED	ENTREPRENEURSHIP DEVELOPMENT

At the end of the course student will:

CO 1 Understand the concept of Entrepreneurship, its applications and scope.

CO 2 Know various types of financial institutions that help the business at Central, State and Local

Level

CO 3 Understand Central and State Government policies, Aware of various tax incentives, concessions

CO 4 Applies the knowledge for generating a broad idea for a starting an enterprise/startup

CO 5 Understand the content for preparing a Project Report for a star up and differentiate between financial, technical analysis and business feasibility.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	II	LSC121ED	ENTREPRENEURSHIP DEVELOPMENT

At the end of the course student will:

CO 1 Understand the concept of Entrepreneurship, its applications and scope.

CO 2 Know various types of financial institutions that help the business at Central, State and Local Level

CO 3 Understand Central and State Government policies, Aware of various tax incentives, concessions

CO 4 Applies the knowledge for generating a broad idea for a starting an enterprise/startup

CO 5 Understand the content for preparing a Project Report for a star up and differentiate between financial, technical analysis and business feasibility.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	II	COM356EW	E COMMERCE AND WEB DESIGNING

At the end of the course student will:

CO 1: Recognize different concepts related to E-commerce.. Differentiate between E-commerce business models of a firm, and determine the role that the Internet and related technologies can play to support this model

CO 2: Recognize the different applications of E-commerce

CO 3: Recognize issues related to E-commerce technologies, risks and information security.

CO 4: Identify social, ethical and cultural aspects related to E-commerce.

CO 5: Realize the impact of E-commerce on individuals and organizations. And learn to create web pages using html

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com GENERAL	III	Com231AA	Advanced accounts

At the end of the course student will:

Co 1:understand the concept of non profit organizations and its accounting process

Co 2: comprehend the concept of single entry system and preparation of statement of affairs.

Co 3: familiarize with the legal formalities at the time of dissolution of firm

C0 o 4: prepare financial statements for partnership on dissolution of the firm.

Co 5: employ critical thinking skills to understand the difference between dissolution of the firm and dissolution of partnership.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com COMPUTER)	III	Com231AA	Advanced accounts

At the end of the course student will:

Co 1:understand the concept of non profit organizations and its accounting process

Co 2: comprehend the concept of single entry system and preparation of statement of affairs.

Co 3: familiarize with the legal formalities at the time of dissolution of firm

C0 o 4: prepare financial statements for partnership on dissolution of the firm.

Co 5: employ critical thinking skills to understand the difference between dissolution of the firm and dissolution of partnership.

PROGRAM	**SEMESTER**	**COURSE CODE**	**COURSE NAME**
B.com(GENERAL, COMPUTERS)	**III**	**COM233MAKT**	**MARKETING**

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

CO 1 To introduce the marketing concept and how we identify, understand and satisfy the needs of customers and markets

CO 2 To describe major bases for segmenting consumer and business markets, define and able to

apply the three steps of target marketing, market segmentation and market positioning.

CO 3 Students will demonstrate strong conceptual knowledge in the functional area of marketing management.

CO 4 Enables students to pursue good marketing courses in future

CO 5 Students will be familiar about the product life cycle stages and New product development process, so through this they will be develop entrepreneur skills.

CO 6 Each student shall understand marketing and industry issues and role of marketing activities within that environment

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(COMPUTERS)	III	COM355DBMS	DATABASE MANAGEMENT SYSTEM

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

CO 1 To understand Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

CO 2 To understand the knowledge of File-Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of

DBMS, Data Models, Components of Database System, Database Architecture, DBMS

Vendors and their products.

CO 3 To develop the skills The Building Blocks of an Entity-Relationship, Classification of Entity Set,

Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

CO 4 Enables students to pursue History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL),Selection Operation Projection Operation, Aggregate Functions,

Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

CO 5 Students will be ready to understand Structure of PL/SQL, PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	III	COM232BST	BUSINESS STATISTICS

On completion of this course, the students will be able to

CO 1: Understand the importance of Statistics in real life,

CO 2: Formulate complete, concise, and correct mathematical proofs,

CO 3: Frame problems using multiple mathematical and statistical tools,

CO 4: measuring relationships by using standard techniques Build and assess data-based models,

CO 5: Learn and apply the statistical tools in day life and Create quantitative models to solve real world problems in appropriate contexts.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	III	COM232BST	BUSINESS STATISTICS

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

CO 1: Understand the importance of Statistics in real life,

CO 2: Formulate complete, concise, and correct mathematical proofs,

CO 3: Frame problems using multiple mathematical and statistical tools,

CO 4: measuring relationships by using standard techniques Build and assess data-based models,

CO 5: Learn and apply the statistical tools in day life and Create quantitative models to solve real world problems in appropriate contexts.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	III	SDC231IP	INSURANCE PROMOTION

By successful completion of the course, students will be able to;

CO 1: Understand the field level structure and functioning of insurance sector and it's role in protecting the risks

CO 2; Comprehend pertaining skills and their application for promoting insurance coverage

CO 3: Prepare better for the Insurance Agent examination conducted by IRDA

CO 4: Plan 'promoting insurance coverage practice' as one of the career options.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	III	SDC231IP	INSURANCE PROMOTION

By successful completion of the course, students will be able to;

CO1: Understand the field level structure and functioning of insurance sector and its role in protecting the risks

CO2: Comprehend pertaining skills and their application for promoting insurance coverage

CO3: Prepare better for the Insurance Agent examination conducted by IRDA

CO4: Plan 'promoting insurance coverage practice' as one of the career options.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL, COMPUTERS)	IV	COM241AU	AUDITING

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

CO 1 Apply and demonstrate the accounting knowledge and skills in auditing

CO 2 Have a basic working knowledge of auditing reporting, internal control over financial reporting, auditing for fraud etc…

CO 3 This course is intended to acquaint the student with duties of auditor, rights of auditor, qualifications and disqualifications of auditors according to companies act, 2013.

CO 4 To provide the understanding by the students of general chronology of audit, audit strategy, audit program and documentation and procedure involved in audit.

CO 5 To enable students to assess the audit techniques and the concepts of internal check in detail and also different types of audit.

CO 6 To enable the students in detailed knowledge about vouching of cash and trading transactions in organizations.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL,)	IV	COM241CA	CORPORATE ACCOUNTING

At the end of the course student will:

CO 1 Recognizing different types of shares, identifying the steps for formation of a company Aware of the process of valuation of shares

CO 2 Preparation of accounts related to issue of shares and debentures

CO 3 Preparation of accounts related to valuation of goodwill and valuation of shares

CO 4 Preparation of accounts related to company final accounts

CO 5 Identifying the Provisions of the Companies Act, 2013 relating to issues of shares and debentures

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	IV	COM241CA	CORPORATE ACCOUNTING

At the end of the course student will:

CO 1 Recognizing different types of shares, identifying the steps for formation of a company Aware of the process of valuation of shares

CO 2 Preparation of accounts related to issue of shares and debentures

CO 3 Preparation of accounts related to valuation of goodwill and valuation of shares

CO 4 Preparation of accounts related to company final accounts

CO 5 Identifying the Provisions of the Companies Act, 2013 relating to issues of shares and debentures

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL,)	IV	COM241ITP	INCOMETAX LAW&PRACTICE

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

CO 1 Students will apply enhanced analytical skills to resolve complex problems.

CO 2 Students will understand the legal, regulatory, and professional environment of accounting.

CO 3 Students will demonstrate professional skills.

CO 4 Students will understand the ethical expectations of the accounting profession including the ability to recognize and respond appropriately to ethical dilemmas.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS,)	IV	COM241ITP	INCOMETAX LAW&PRACTICE

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

CO 1 Students will apply enhanced analytical skills to resolve complex problems.

CO 2 Students will understand the legal, regulatory, and professional environment of accounting.

CO 3 Students will demonstrate professional skills.

CO 4 Students will understand the ethical expectations of the accounting profession including the ability to recognize and respond appropriately to ethical dilemmas.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	IV	COM241CMA	COST AND MANAGEMENT ACCOUNTING

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

CO 1: Basic concepts and enables the student to understand the basics of Cost accounting, its features and objectives and techniques used to compute the Cost of different areas of business.

CO 2: On materials, deals with the valuation of material purchased by business entities and talks about the best means of purchasing large volumes at cheaper rates.

CO 3: Marginal costing deals with cost volume profit analysis and the activity level at which the company earns neither profit nor loss.

CO 4: Job costing and Batch costing is useful for students to evaluate the job cost per unit and Batch costing is evaluating a lot of units in the same product.

CO 5: Financial statement analysis evaluates the various statements like profit and loss account and balance sheet.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(COMPUTERS)	IV	COM241CMA	COST AND MANAGEMENT ACCOUNTING

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

CO 1: Basic concepts and enables the student to understand the basics of Cost accounting, its features and objectives and techniques used to compute the Cost of different areas of business.

CO 2: On materials, deals with the valuation of material purchased by business entities and talks about the best means of purchasing large volumes at cheaper rates.

CO 3: Marginal costing deals with cost volume profit analysis and the activity level at which the company earns neither profit nor loss.

CO 4: Job costing and Batch costing is useful for students to evaluate the job cost per unit and Batch costing is evaluating a lot of units in the same product.

CO 5: Financial statement analysis evaluates the various statements like profit and loss account and balance sheet.

Programme	Semester	Course Code	Course Name
B.Com(Computer Applications)	IV	COM-245 OOPJ	Object oriented Programming Using Java

On Completion of this Course , The students will able to:-

CO-1 Develop programming skills and declaration of variables and constant use of operators and expressions.

CO-2 Learn the syntax and semantics of programming language and be familiar with object-oriented concepts.

CO-3 Analyze difference between Procedure– Oriented Programming and Object-Oriented Programming.

CO-4 Packages,Different Types of Packages, Creating Package and Accessing a Package .Streams, Creating a File using File Input- Output Streams

CO-5 Exception Handling,Types of Exceptions, Creating a Thread using Thread class methods.

Programme	Semester	Course code	Course Name
B.Com General	IV	COM246GST	Goods and services tax .

On completion of this course, the students will able to :-

CO-1 Understand the basic principles underlying the indirect taxation statutes.

CO-2 Examine the method of tax credit, input and output tax credit and cross utilization of input tax credit.

CO-3 Identify and analyze the procedural aspects under different applicable statutes related to GST.

CO-4 Compute the assessable value of transactions related to goods and services for levy and determination of duty liability.

CO-5 Develop various returns and reports for business transactions in tally.

CO-6 Understand tax invoice and bill of supply.

Programme	Semester	Course code	Course Name
B.Com General	IV	COM241BL	BUSINESS LAW

On completion of this course, the students will able to :-

CO 1 Essential elements of valid contract, valid, void and voidable contracts, Indian Contract, Act 1872

CO 2 Offer (unilateral contract, Revocation of offer), Acceptance and Consideration.

CO 3 Minor contracts, Different modes of discharge of contracts, Rules relating to remedies to breach of the contract.

CO 4 Contract of sale, Rights of unpaid vendor.

CO 5 Cyber Crimes, Digital signature, Electronic governance.

CO 6 Regulation of certifying authorities, Duties of subscribers, Penalties and adjudication, Appellate tribunal, Offences and Cyber Crimes .

Programme	Semester	Course code	Course Name
B.com(GENERAL,) BBA	V	COM356ACA	ADVANCED CORPORATE ACCOUNTING

CO 1 Prepare the Consolidated Balance Sheet of Holding and its Subsidiary Company and also able to understand the legal requirements relating to presentation of Accounts of Holding Companies and its Subsidiaries

CO 2 Understand the meaning of Liquidation-Modes of Winding Up-Order of Payment-Preferential Creditors-Statement of Affairs- Deficiency or Surplus Account-Liquidator's Final Statement

CO 3 Understand the meaning of Amalgamation-Types of Amalgamation-Computation of Purchase Consideration-pass the Entries in the books of Transferor and transferee-special Adjustment Entries for Inter-Company Owings and Holdings

CO 4 Understand the meaning of Alteration of Share Capital and Reduction of Share Capital-Pass Accounting Entries-adjust Surrender of Shares-Dissenting Shareholders-Reconstruction Schemes

CO 5 Understand the meaning and terms used in Leasing-Popularity of Leasing-Advantages and Disadvantages-Classification-Operating and Financial Lease-Accounting for Financial Lease-Books of Lessee and Lessor-Operating Lease-Accounting for Operating Lease-Books of the Lessee and lessor

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com GENERAL	V		STOCK MARKET

At the end of the course student will:

CO 1: The basic trade off between risk and return and how it applies to various types of financial instruments, stocks, bonds, futures, options

CO 2: Market efficiency and arbitrage. Are markets efficient or are they dominated by irrational investors

CO 3: Diversification: how to select a portfolio of securities that maximizes returns, while minimizing risk? How does diversification work in practice?

CO 4: Financial instruments: bonds, stocks, currencies and derivatives (futures options). How are these related to Hedging and speculation?

CO 5: The money management industry and its key players: Mutual funds and pension funds. Do they have any superior investment skills?

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(COMPUTERS)	V	7A	Data Science using Python

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

CO 1 Understand basic concepts of data science

CO 2 Understand why python is a useful scripting language for developers.

CO 3 Use standard programming constructs like selection and repetition.

CO 4 Use aggregated data (list, tuple, and dictionary).

CO 5 Implement functions and modules.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL) **B.COM (computers)**	**V**		**General insurance procedure and practice**

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

CO 1 Students apprehend the various products and their significance of General Insurance

CO 2 Students realize the statutory requirements and procedure to be followed while filling the various General Insurance policy forms and documents

CO 3 Students know the prospects of Indian and International General Insurance Market

CO 4 Students will understand the role of underwriters & Actuaries in fixing the premiums by Risk Sharing and Risk Management techniques

CO 5 Students understand the process and documents necessary for different types of claims.

CO 6 Students also learn about the frauds, fraud prevention and different types of reserves of Insurance Companies

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	V		ADVERTISING AND MEDIA PLANNING

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

CO 1 Determine, analyze and respond to clients' advertising and marketing communications objectives by applying principles of marketing and communications

CO 2 Perform a market segmentation analysis, determine the organization's target market/audience and define the consumer behaviour of each segment.

CO 3 Evaluate the effectiveness of integrated advertising and marketing communications initiatives.

CO 4 Evaluate the effectiveness of integrated advertising and marketing communications initiatives.

CO 5 Develop advertising and marketing communications material in compliance with current Canadian legislation, industry standards and business practices

CO 6 Develop creative solutions to address advertising and marketing communications challenges.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	V		GST WITH TALLY

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

CO 1 To introduce the students to Basic of Accounts and the usage of Tally for accounting purpose and basic concepts of gst

CO 2 Students will learn to create company, enter accounting voucher entries including advance voucher entries, do reconcile bank statement, do accrual adjustments, and also print financial statements, etc. in Tally ERP.9 software.

CO 3 Demonstrate an understanding of various predefined inventory vouchers to suit the various business requirements and flexibility to create unlimited stock items, use simple to complex conversion units and generate invoices with the required information and dimensions.

CO 4 Demonstrate an understanding of how to maintain a payroll register. This helps to understand how to maintain management related information, statutory forms and reports in the prescribed formats such as: Pay Slip, Payroll Statements, Attendance and Overtime Registers et

CO 5 Develop the students use the Tally software, that helps to prepare Accounting, Payroll, Billing, Sales and Profit Analysis, Auditing Banking Inventory, Taxation such as GST

CO 6 Synthesize company accounts into Tally software Evaluate GST in the accounting software

.Create a career as Accounting professional.

Programme	Semester	Course code	Course Name
B.Com (General&Computers)	V	COM355LIP	Life insurance with Practice.

On completion of this course, the students will able to :-

CO-1 Understand the features of Life insurance, schemes and policies and insurance companies in india.

CO-2 Analyze various schemes and policies related to the life insurance sector.

CO-3 Choose a suitable insurance policy for a given situation and respective persons.

CO-4 Acquire insurance agency skills and other administrative skills.

CO-5 Acquire skill of settlement of claims under various circumstances.

Programme	Semester	Course code	Course Name
B.Com(General&computers)	V	COM357SMA	Stock Market Analysis

On completion of this course, the students will able to :-

CO-1: Understand overall share market.

CO-2: To identify the trends, support and resistance in the stock market.

CO-3: Understand how to build portfolio and investment decision in appropriate manner

CO-4: Understand fundamental, technical and quantitative analysis of stock.

CO 5: To identify bullish and bearish patterns of securities in stock markets.

Programme	Semester	Course code	Course Name
B.Com(General)	V	COM351ITAPP	Income tax procedure and practice

On completion of this course, the students will able to :-

CO 1: Understand the application of taxation knowledge in both theoretical and practical.

CO 2: Determine the procedure and schedule to be followed on preparing financial statements of companies

CO 3: File income tax return and compute tax liability of individuals.

CO 4: Develop critical thinking skills in students

CO 5: Understand E-Filling of tax returns and tax procedures

CO 1: To introduce the students to the basics of Accounts and the usage of Tally for accounting purposes.

CO 2: To help students to work with well- known accounting software i.e., Tally ERP.9. Tally is an accounting package which is used for learning to maintain accounts.

CO 3: Students will learn to create a company, enter accounting voucher entries including advance voucher entries, reconcile bank statements, do accrual adjustments, and also print financial statements, etc. in Tally ERP.9 software.

CO 4: Demonstrate an understanding of various predefined inventory vouchers to suit the various business requirements and flexibility to create unlimited stock items, use simple to complex conversion units and generate invoices with the required information and dimensions.

CO 5: Students will possess required skill and can also be employed as Tally data entry operator.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL)	V		SALES PROMOTION AND PRACTICE

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

CO 1: Understanding of basic concepts of sales promotion and to develop the skills to manage sales operations in a business firm.

CO 2: Discuss and make the student understand complexities of sales promotions involved in various organizations

CO 3: Take effective decisions for launching a new sales promotion technique in organization

CO 4: Understand the implications of the different promotional techniques and personal selling strategies

CO 5: To develop the skills among the students to enable them to design the personal selling strategies and make them aware of the selling strategies in the current era.

Programme	Semester	Course Code	Course Name
B.Com(Computer Applications)	**V**	**COM-351 BDAR**	**Big Data Analytics using 'R'**

On Completion of this Course , The students will able to:-

CO 1: Understand data and classification of digital data.

CO 2: Understand Big Data Analytics.

CO 3: What is R? Why R? , advantages of R over other programming languages, Data types in R

CO 4: Data frames in R,Operations performed on data Frames.Load data into R.

CO 5: Reading and getting data into R (External Data), Working with R Charts and Graphs

Department of Visual Communication

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	ENG111BWS	Basic Writing Skills

On successful completion of the course, students will be able to;

CO 1: To enable the students to heighten their awareness of correct usage of English Grammar in writing and reading

CO 2: To enable the students to improve their speaking ability in global language both in terms of fluency and comprehensibility

CO 3: To help the students to enlarge their vocabulary by keeping a vocabulary journa

CO 4: To enable the students, strengthen their ability to write academic papers, essays and summaries using the process approach

CO 5: To enhance the ability to use the conventions of grammar when creating paragraphs

CO 6: To enable students to review the grammatical forms of English and the use of these forms in specific communicative contexts, which include: class activities and home tasks

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	VIS112ICT	Introduction to Communication Theories

On successful completion of the course, students will be able to;

CO 1: Understand the role of communication in personal & professional success.

CO 2: Develop awareness of appropriate communication strategies.

CO 3: Prepare and present messages with a specific intent.

CO 4: Analyse a variety of communication acts.

CO 5: Ethically use, document and integrate sources.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	VIS113WM	Writing for Media

On successful completion of the course, students will be able to;

CO 1: Understand and be able to apply the principles of news language and news story structure

CO 2: Understand news values and concepts of newsworthiness and be able to apply these

CO 3: Develop an understanding of writing and news story structure that is sufficient to write for news media

CO 4: Apply news writing and news story structure concepts and skills to writing for print, broadcast and online news media

CO 5: Be aware of some common sources of news and how these can be incorporated in news writing.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	VIS114VC	Visual Communication

On successful completion of the course, students will be

CO 1: Demonstrate critical and innovative thinking.

CO 2: Display competence in oral, written, and visual communication.

CO 3: Apply communication theories.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	VIS115AAC	Art, Architecture and Culture (T)

On successful completion of the course, students will be able to;

CO 1: Recognize functional, structural, and aesthetic qualities in architecture and read visual and experiential elements, major monuments, architectural and cultural styles, and symbols. Demonstrate an understanding of works of art and architecture from diverse genres and from a range of historical periods and geographical locations.

CO 2: Demonstrate mastery of analytical skills such as observation and inductive reasoning in interpreting works of art both as formal structures and in relation to social and cultural contexts. Students will demonstrate an effective knowledge of visual vocabulary appropriate for careers in the visual arts, architecture, visual studies, and the media.

CO 3: Produce an extended work involving visual analysis, reading research, critical thinking, writing, and standard methods of documentation. They will demonstrate skills necessary for effective preparation of artwork for public presentation, using a variety of materials and techniques.

CO 4: Acquire a deeper knowledge of a range of chronological periods, geographical areas and methods of analysis of the built world. Learn oral communication of art historical arguments. Learn to produce cogent written arguments supported by visual and textual research.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	SDC111VC	Visual Communication (P)

On successful completion of the course, students will be able to;

CO 1: Students will learn how the light works with a camera. Students will learn how colour theory works.

CO 2: Students will be able to analyse visual messages in six different perspectives like Personal, Historical, Technical, Ethical, Cultural and Critical.

CO 3: Students will be able to create Ideas for Visual ads, TV ads etc.

CO 4: Students will be able to work in industries like Graphic Designing, Television, Film etc.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	SDC112DSP	Digital Still Photograph y

On successful completion of the course, students will be able to;

CO 1: An understanding of the industrial and commercial applications of photographic technique

CO 2: Functional knowledge of photographic history and theory, the relationship of photography to the visual disciplines, and its influence on culture.

CO 3: The ability to work in experimental and manipulative techniques, candid and contrived imagery, documentary photography, archival processing, and interpretive studies.

CO 4: The ability to work and study independently.

CO 5: A familiarity with and command of materials, equipment, and library resources related to the study of photography.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	SDC113GD	Graphic Designing - 1

On successful completion of the course, students will be able to;

CO 1: They will demonstrate skills necessary for effective preparation of artwork for public presentation, using a variety of materials and techniques.

CO 2: Students will demonstrate an effective knowledge of visual vocabulary appropriate for careers in the visual arts, architecture, visual studies, and the media

CO 3: The students will employ both analogue media (drawing with pencil and paper, etc.) and digital media -- using up-to-date computer tools (graphics hardware and software - for drawing, painting, layout, typography)

CO 4: Apply graphic design principles in the idealization, development, and production of visual messages.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	SDC114SW	Screen Writing

On successful completion of the course, students will be able to;

CO 1: To learn the fundamental principles of screenwriting and apply them to your own work in progress.

CO 2: To complete the first half of a feature length screenplay (approx20 pages) over the course.

CO 3: To learn how to read and analyse your own work and the work of others as a screenwriter.

CO 4: To gain an understanding of the business side of screenwriting.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**I**	SDC115TA	Theatre Arts

On successful completion of the course, students will be able to;

CO 1: Demonstrate understanding of the social and artistic movements that have shaped theatre and dance as we know it today.

CO 2: Apply discipline-specific skills to the creation of performance.

CO 3: Analyse, and interpret texts and performances both in writing and orally.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	ENG121JE	Journalist English

On successful completion of the course, students will be able to;

CO 1: Demonstrate how the journalistic approach to problem solving and storytelling can produce locally engaged, globally competent citizens

CO 2: Demonstrate competence in a core set of journalistic crafts in reporting, research and storytelling that show versatility across media

CO 3: Express a critical understanding of the contextual factors that shape the media message in a diverse, globalized media landscape

CO 4: Produce journalistic work that showcases an area of specialization that draws on the creativity and entrepreneurial spirit of the students

CO 5: Produce a portfolio of work that demonstrates work produced in a public media setting

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	VIS122MCT	Mass Communication Theories

On successful completion of the course, students will be able

CO 1: To critical think using mass communication theories

CO 2: To know the historical necessity for mass communication as a subject in the west in the backdrop of propaganda

CO 3: Apply critical thinking and analytical skills in order to create a proposal for a Mass Communication research project grounded in a specific theory.

CO 4: Effectively present and defend ideas/concepts orally and in writing.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	VIS123IJ	Introduction to Journalism

On successful completion of the course, students will be able to;

CO 1: A student will learn the history of journalism in the world.

CO 2: A student will be exposed to the evolving journalism across India.

CO 3: A student will learn news editing and gathering of news stories.

CO 4: A student will learn about hard and soft stories besides feature news writing.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	VIS124EF	Elements of Film

On successful completion of the course, students will be able to;

CO 1: Students will demonstrate that the critical study of cinema informs their filmmaking and that the study and practice of film production enhance their work as film scholars and analysts.

CO 2: Students will demonstrate that they understand the pre-production, production, and post production film making process

CO 3: Students will demonstrate the relationship between film form and aesthetic effect through both film

CO 4: Analysis and the creation of motion pictures.

CO 5: Students will be able to conduct film research and compose cogent, persuasive, and valid essays about film.

CO 6: Students will demonstrate a broad knowledge of film history, national cinemas and modes of production.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	VIS125BC	Broadcast Communication

On successful completion of the course, students will be able to;

CO 1: The course is beneficial to develop the communication skills of students for broadcasting purposes and to prepare them as competent professionals to meet the challenges posed by rapidly changing environments.

CO 2: It makes the student aware of the art and technology used in broadcasting.

CO 3: The program imparts a deeper understanding of journalism and the forms it takes, and the focus is on content as much as on skills.

CO 4: The course is suitable to provide the students with an insight into the broadcast media and its relevance to rural and urban development, to train students in the basic skills required for broadcast media.

CO 5: It helps to expose students to the basic concepts, characteristics of Indian society to enable them to plan suitable programs on current political, economic, environmental and rural problem.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	LSC121PSP	Public Speaking & Presentation

On successful completion of the course, students will be able to;

CO 1: To make the student to present to a group, company and individual, learn to speak to the public.

CO 2: Smart way of presenting materials to the public, to understand the nuances of presentation.

CO 3: To gain confidence in whatever one presents to the other

CO 4: Utilizing a variety of delivery skills such as eye contact, gestures, movement & vocal variety.

CO 5: Critically assess their own speaking, and that of others.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	SDC121GD	Graphic Designing – 2

On successful completion of the course, students will be able to;

CO 1: Analyse, synthesize, and utilize design processes and strategy from concept to delivery to creatively solve communication problems. Create communication solutions that address audiences and contexts, by recognizing the human factors that determine design decisions.

CO 2: Utilize relevant applications of tools and technology in the creation, reproduction, and distribution of visual messages. Apply graphic design principles in the ideation, development, and production of visual messages.

CO 3: Identify and utilize design history, theory, and criticism from a variety of perspectives, including: art history, communication/information theory, and the social/cultural use of design objects.

CO 4: Confidently participate in professional design practice and management within a collaborative work environment. Employ best practices and management in the design profession and within a collaborative work environment.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	SDC122DVE	Digital Video Editing

On successful completion of the course, students will be able

CO 1: Learn to combine basic design principles in video

editing.

CO 2: Learn Adobe Premiere Pro & Final Cut Pro software in basic level.

CO 3: Able to learn techniques of handling the different types edit setup.

CO 4: Application of video software to edit and produce.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**II**	SDC123DAP	Digital Audio Production

On successful completion of the course, students will be able to;

CO 1: Learn fundamental knowledge of how sound is digitally produced and recorded.

CO 2: An understanding of how the digital and the analogue protocols differ and the relative advantages of each.

CO 3: Ability to work at a basic level in the Presonus Studio 5 live recording from multiple sources.

CO 4: Hands on experience with live recording, from concept, mixing, and then to mastering a CD.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	VIS231MLE	Media Laws & Ethics

On successful completion of the course, students will be able to;

CO 1: Students will learn the Indian constitution and the four estates of Indian democracy.

CO 2: The students will learn about defamation and its implications.

CO 3: Students will learn about the laws relating to the press.

CO 4: The students will learn some Media related Acts.

CO 5: The students will study the ethical aspects of the Laws.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	VIS232MC	Media & Culture

On successful completion of the course, students will be able to;

CO 1: Learn several theories to discuss the relationship between media and culture.

CO 2: Understanding how different communities and cultures are represented in the media.

CO 3: Examine the ethical implications of media culture.

CO 4: Examine and evaluate the relevance of the various ideas studied in today's world.

CO 5: Apply different ideas and perspectives in order to critically evaluate their existence and role in society.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	VIS234TP	Television Production - 1 (T)

on successful completion of the course, students will be able to;

CO 1: Gain overall understanding on history of print media during pre and post-independence era.

CO 2: Acquire knowledge on growth of news agencies.

CO 3: Gain understanding on emergence of different genres within newspapers.

CO 4: Acquire knowledge on the role of print media in developed countries.

CO 5: Gain understanding of trends in print media.

CO 6: Acquire knowledge on the changing content in print media due influence of technology

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	VIS233PJ	Print Journalism (T)

On successful completion of the course, students will be able

CO 1: Communicate effectively through film platforms.

CO 2: Conceptualize, write, shoot and edit documentary films independently.

CO 3: Develop characters and write dialogues for a film.

CO 4: Conceptualize, develop and write the screenplay for films.

CO 5: Develop and create a programme of different genres for television.

CO 6: Conduct independent photo shoots and tell a story through the same.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	LSC231CINA	Contemporary Issues & News Analysis

On successful completion of the course, students will be able

CO 1: Identify an issue and argue from ideological perspective.

CO 2: Apply a range of theoretical perspectives to interpret social problems associated with gender, race and ethnicity.

CO 3: Identify the major social problems evident in contemporary Indian society at micro and macro level and interpret it using semiotics and hermeneutics.

CO 4: Critically evaluate social problems in terms of the organization and structure of contemporary Indian society.

CO 5: Evaluate social issues and find solutions for the society

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	SDC231BJ	Broadcast Journalism

On successful completion of the course, students will be able to;

CO 1: Understand radio as a medium its role and functions in convergent media epoch.

CO 2: Acquire skills in writing scripts for various radio programs & take up various roles in radio.

CO 3: Handle production equipment- software and hardware needed for radio production.

CO 4: Able to produce indoor and outdoor programs and understand the concept of Community Radio.

CO 5: Follow program production and evaluation procedures for radio stations.

CO 6: Write proposals for Radio program and independently produce their own program

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	SDC232PJ	Print Journalism (P)

On successful completion of the course, students will be able to;

CO 1: Students will acquire a functional knowledge of the underlying principles and recent emerging trends of the media industry.

CO 2: Students will develop communication skills, appreciation for creativity, critical thinking, and analytical approach.

CO 3: Students will be equipped to conceptualize, create, design, and strategies high-quality media content for print, TV, radio, films and various digital platforms like social media, mobile etc.

CO 4: Students will appreciate and demonstrate the ability to produce reliable outcomes firmly founded on a socially responsible framework, backed with decent knowledge of media ethics and law.

CO 6: Critically appraise practices and trends in print media.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	SDC233TP	Television Production - 1 (P)

On successful completion of the course, students will be

CO 1: Operate the basic functions of a video camera.

CO 2: Execute basic camera shots using appropriate composition methods.

CO 3: Create clean and usable video footage while applying basic camera techniques.

CO 4: Enterprise story ideas to create video packages and Practice basic audio and lighting techniques.

CO 5: Apply the production planning process of story boards, content outline, storytelling and execution.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	SDC234POD	Principles of Design

On successful completion of the course, students will be able to;

CO 1: To gain a control of representational drawing skills and To understand and manipulate proportional relationships from actual objects.

CO 2: To manipulate the formal elements and principles to achieve better design solutions. To understand the importance and control of good craftsmanship and presentation skills.

CO 3: To gain a basic understanding of the concepts of drawing and a working knowledge of the media and techniques basic to drawing. To develop the vocabulary necessary for critical analysis of drawing as a visual art.

CO 4: Students gain knowledge of the concepts of art and design that includes the visual arts. Students identify principles of design in a range of visual disciplines. Students discuss works of art and design using the vocabulary of the discipline (in terms of aesthetics and the appropriate technology).

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**III**	SDC235EM	Event Management

On successful completion of the course, students will be able to;

CO 1: Communication-Written communications (preparation official & semi-official) orders

CO 2: Concept based Exhibition, Event planning & developing a mission.

CO 3: Image & Branding, Preparing event proposal, Dress codes, Staging & staffing.

CO 4: Event Production & Logistics-Concept & theme, light, sound & handling Venders.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**IV**	VIS241AD	Advertising (T)

On successful completion of the course, students will be able to;

CO 1: Understand the concept of Integrated Marketing Communication.

CO 2: Understand the concept of advertising.

CO 3: Discuss the basic economic impact of advertising.

CO 4: Explain the different job functions and responsibilities of those employed in advertising.

CO 5: Recognize some of the social, ethical implications of advertising and different forms of advertising regulation.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**IV**	VIS241AD	Public Relations & Corporate Communication

On successful completion of the course, students will be able to;

CO 1: The basic concepts and their functions in and public relations & in Communications.

CO 2: Understanding of the process of public relations and different issues influencing communication.

CO 3: It provides the latest skills in communication with a strategic, managerial and analytic approach.

CO 4: The students will be able to understand the different sections of corporate like branding, marketing communication, PR, reputation management.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	IV	VIS243MEM	Management of Electronic Media

On successful completion of the course, students will be able to;

CO 1: Train the students to meet the requirements of the electronic media organizations and Society.

CO 2: To train the students with special focus on cinema, Radio and Television programme Productions

CO 3: To educate the students in the areas of research, media management, advertising and corporate communication.

CO 4: To enlighten students to be aware of the media impact on culture and society, ethical and legal aspects of the media profession.

CO 5: To train the students in multimedia and emerging communication technologies.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	IV	VIS244TP	Television Production - 2 (T)

On successful completion of the course, students will be able to;

CO 1: Apply industry standard processes for pre-production, production & post-production.

CO 2: Relate historical and current issues and emerging trends to the evolution of television as an artistic media.

CO 3: Model professional and ethical behavior when solving problems working with colleagues and Clients in the media industry to achieve production project goals.

CO 4: Develop scripts for television productions and web-based projects.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**IV**	VIS245SMOJ	Social Media & Online Journalism

On successful completion of the course, students will be

CO 1: Understand the new media and its characteristics.

CO 2: Understand and explain its roles and functions.

CO 3: Determine the use of social media as tool for effective communication.

CO 4: Identify its role and use it effectively for personal development and social cause.

CO 5: Connect it for effective media work.

CO 6: Understand the concept of metrics and the evolving theories.

CO 7: Understand social media marketing.

CO 8: Create and manage social media content responsibly.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**IV**	VIS246TP	Television Production - 2 (P)

On successful completion of the course, students will be able to;

CO 1: Apply a professional level of preparation and planning for multi-cam production.

CO 2: Apply the principles of effective production techniques of a multi-Cam production.

CO 3: Apply industry-standard camera preparation tasks, evaluate image formats and articulate production solutions.

CO 4: Develop a directorial treatment, and visual design preparation that will assist the production process of the project.

CO 5: Evaluate the impact of large-scale production on social and environmental contexts.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**IV**	SDC241AD	Advertising (P)

On successful completion of the course, students will be

CO 1: Students will approach a company for an internship.

CO 2: Students will learn to analyse different ads in different mediums.

CO 3: Students will prepare different ads for different mediums.

CO 4: Students will do a campaign on a social issue.

CO 5: Students will able to meet professional standards in advertising industry's

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**IV**	SDC243AN	Anchoring

On successful completion of the course, students will be able to;

CO 1: Present news in front of a teleprompter.

CO 2: Be aware of vocal delivery.

CO 3: Learn approaches to anchoring in different situations.
CO 4: Learn interview techniques.

CO 5: Studio & Location Anchoring.

CO 6: Write scripts for anchoring

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**V**	VIS351DC	Development Communicatio n

On successful completion of the course, students will be able to;

CO 1: Students will know the concepts of development and critical analysis of the underdevelopment and alternative paths to developments.

CO 2: Students will know about western paradigms for development.

CO 3: Students will know about some folk arts, street theatre in development.

CO 4: Students will develop analytical skills to appreciate some feature films on social empowerment and produce the same.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	V	VIS352DMS	Digital Media Studies

On successful completion of the course, students will be able to;

CO 1: The history of media and communication leading up to the era of Digital Media and its trends.

CO 2: Acquiring knowledge about the key technologies underpinning the hardware, software, and networks that comprise essential digital media forms.

CO 3: Analyze current events, companies, and trends in digital media from various perspectives.

CO 4: To develop content using the features in New Media

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E	V	VIS353ID	Interactive Designing

On successful completion of the course, students will be able to;

CO 1: Apply the key terms, definitions, and concepts used in Interactive Designing communications.

CO 2: Conduct and evaluate marketing research and apply these findings to develop competitive and positioning strategies and to select the target audience(s) for the ID campaign plan.

CO 3: Examine how integrated marketing communications help to build brand identity and brand relationship, and create brand equity through brand synergy.

CO 4: Choose a marketing communication mix to achieve the communications and behavioral objectives of the ID campaign plan.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**V**	VIS354MMR	Mass Media Research

On successful completion of the course, students will be

CO 1: Learn the ropes of social science research.

CO 2: Do research on their own and come up with some interesting data and analyse the data too to add to the domain of media research.

CO 3: Learn to employ relevant research methods for the topics of research chosen by them.

CO 4: Employ research methodology in production and technological practices, and relevant social issues.

CO 5: Understand the nature of mediated and non-mediated messages.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**V**	VIS355DFM	Documentary Film Making

On successful completion of the course, students will be able

CO 1: Students will be able to learn and produce a documentary.

CO 2: Students will be able to learn, prepare to go into the field to shoot a documentary.
CO 3: Students will understand documentary production in its social and historical context.

CO 4: Students will be able to learn how post-production of a documentary works.

Department of Business Administration

Department of BBA

Program	Semester	Course Code	Course Name
BBA	I	BBA111POM	Principles of Management

At the end of the course, the student will be able to –

CO 1: To Outline various elements that constitute Management Functions along with their respective impact on business organization.

CO 2: To Understand the relative impact of elements Management Functions- both Planning and Decision making.

CO 3: To Interpret the repercussions of Organizing Function in business organizing.

CO 4: To Illustrate the challenges and the implications of Directing Function in business organization.

CO 5: To make the student well acquainted with the concept of Controlling function.

Program	Semester	Course Code	Course Name
BBA	I	BBA111BO	Business Organization

By successfully completion of the course, student will be able to

CO 1: To understand the concepts related to business

CO 2: To familiarize the students about various sources of finance

CO3: To enlighten with nature and importance of business organization

CO 4: To gain knowledge about various types of business organization

CO 5: To understand the functioning of Joint Stock companies and also necessary documents to be needed.

Program	Semester	Course Code	Course Name
BBA	I	BBA111FOA	Fundamentals of Accounting

By successfully completion of the course, student will be able to

CO 1: At the end of the course, the student will be able to identify transactions and events that need to be recorded in the books of accounts.

CO 2: Students can equip themselves with the knowledge of the accounting process and preparation of

final accounts of sole traders.

CO 3: Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.

CO 4: Analyze the difference between cash book and pass book in terms of balance and make reconciliation.

CO 5: Critically examine the balance sheets of a sole trader for different accounting periods. Design new accounting formulas & principles for business organizations.

Program	Semester	Course Code	Course Name
BBA	1	SDC111PR	Public Relations

After successful completion of this course, the student will be able to:

CO 1: Understand the historical background and role Public Relations in various areas

CO 2: Have insight into the use of the technological advancements in Public Relations

CO 3: Comprehend tools of Public Relations in order to develop the required skills.

CO 4: Understand the ethical aspects and future of Public Relations in India

CO 5: Develop writing skills for newspapers and creation of Blogs.

Program	Semester	Course Code	Course Name
BBA	2	BBA121BENV	Business Environment

By successfully completion of the course, student will be able to

CO 1: To examine how different factors and trends in the external environment are likely to impact upon a business venture.

CO 2: To Employ business models and tools to evaluate changes in an organization's business environment.

CO 3: To describe what business operations encompass.

CO 4: To Present a business environmental analysis and recommendations to reduce the risk of the identified issues.

CO 5: To Conduct a business analysis of the local, national and International environment**.**

Program	Semester	Course Code	Course Name
BBA	2	BBA121ME	Managerial Economics

The objective of the course is to enable the students to list the different goals and constraints that firms face applies the economic way of thinking to individual decisions and business decisions

CO 1: To Describe the various approaches to National Income and to extract the significance of Trade Cycles

CO 2: To Explain the Conceptual framework of Managerial Economics and its functioning in accordance with the business operations

CO 3: To Illustrate the framework of Concepts Viz., Demand, Supply & Market Equilibrium and to interpret its implementation in business organization.

CO 4: To Criticize the impact of Costs and evaluate the concept of production in organization functioning.

CO 5: To Appraise the concept of Market structures and the implementation of pricing as strategy for organization.

Program	Semester	Course Code	Course Name
BBA	2	BBA121FA	Financial Accounting

By successfully completion of the course, student will be able to

CO 1: At the end of the course the student will be able to; understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.

CO 2: Analyze the accounting process and preparation of accounts in consignment and joint venture.

CO 3: Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.

CO 4: Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.

CO 5: Design an accounting system for different models of businesses at his own using the principles of the existing accounting system.

Program	Semester	Course Code	Course Name
BBA	2	BBA121ECS	Ethics and Corporate social Responsibility

By successfully completion of the course, student will be able to

CO 1: After completing of the unit student will have to under standing about what are the ethics should follow in the organization

CO 2: Students can analyze what are the theories which help to sustain in the business and what are the rights and responsibilities of workers in the organizations

CO 3: At the end of this unit student can have a clear cut vision about corporate governance and accounting standards and insider trading.

CO 4: knowing about board of directors role and duties and responsibilities

CO 5: Got an idea about corporate social responsibility.

Program	Semester	Course Code	Course Name
BBA	2	SDC122BC	Business Communication

By successfully completion of the course, student will be able to

CO 1: Understand the types of business communication and correspondence

CO 2: Comprehend the processes like receiving, filing and replying

CO 3:. Acquire knowledge in preparing good business communications

CO 4: Acquaint with organizational communication requirements and presentations

Program	Semester	Course Code	Course Name
BBA	2	SDC121AD	Advertising

By successfully completion of the course, student will be able to

CO 1: Understand the field of Advertising

CO 2: Comprehend opportunities and challenges in Advertising sector

CO 3: Prepare a primary advertising model

CO 4: Understand applying of related skills

CO 5: Examine the scope for making advertising a future career

Program	Semester	Course Code	Course Name
BBA	3	BBA235BR	Business Research

After successful completion of this course, the students are able to

CO 1: Apply an advanced understanding of business research design options, methodologies and analysis methods (both qualitative and quantitative), including respective terms, definitions and applications to the design, implementation and evaluation of a research project.

CO 2: Distill an identified business problem into a succinct research problem (or problems) and articulate this into a comprehensive research brief for investigation by a research team locally or internationally.

CO 3: This brief will include a statement of the resulting research problem and the objectives that need to be achieved to provide the information necessary to tackle the business problem and the decisions

that need to be made respective to it.

CO 4: Complete, from the brief created, a research proposal for implementation at either a local or international level. This will include (but not be restricted to), a literature summary at the necessary level of depth to ensure a thorough understanding of what is already known about the problem to be addressed, the proposed research design, data collection, sampling, analysis methods to be employed along with an indicative time frame for each stage of the research proposed and budget.

CO 5: Apply a broad understanding of issues specific to undertaking business research across international boundaries, including cultural, geographical, language and cost related challenges and respective strategies and approaches that may be employed to solve them to the design, implementation and evaluation of a research project.

Program	Semester	Course Code	Course Name
BBA	3	BBA233FM	Financial Management

By successfully completion of the course, student will be able to

CO 1: To understand the concept of business finance and financial management,

CO 2: To analyse the cost of capital, computation of cost of capital

CO 3: To distinguish factors determining capital structure, various theories

CO 4: To determine usefulness of capital budgeting meaning and importance and kinds of investment proposals, factors affecting capital investment decisions

CO 5: To design working capital meaning and need and factors determining the working capital

Program	Semester	Course Code	Course Name
BBA	3	BBA234FOM	Fundamentals of Marketing

By successfully completion of the course, student will be able to

CO 1: To understand the various core marketing concepts and their importance

CO 2: To understand different marketing trends, markets, products & channels

CO 3: To gain knowledge on buyer behavior and market segmentation

CO 4: To familiarize students about product and its classifications

CO 5: To understand different price strategies & promotion strategies.

CO 6: To understand the importance of regulating marketing.

Program	Semester	Course Code	Course Name
BBA	3	BBA231HRM	Human Resource Management

By successfully completion of the course, student will be able to

CO 1: Acquaint the role and importance, various policies and practices of human resources management.

CO 2: To impart knowledge about the concept of human resource planning, its objectives and process of human resource planning and also the job analysis.

CO 3: To understand the concept of recruitment and selection and its process and principles of placement and overview about induction procedure.

CO 4: To impart the knowledge about the performance appraisal, its various methods and the concept of training and executive development and an overview about evaluation of training and development programmes.

CO 5: To make the student well acquainted with the concept of job evaluation process, compensation management, its approaches and an overview of designing a graded salary structure.

Program	Semester	Course Code	Course Name
BBA	3	BBA232OB	Organizational Behaviour

By successfully completion of the course, student will be able to

CO 1: Discuss the development of the field of organizational behavior and explain the micro and macro approaches.

CO 2: Analyze and compare different models used to explain individual behavior related to motivation and rewards.

CO 3: Identify the processes used in developing communication and resolving conflicts.

CO 4: Explain group dynamics and demonstrate skills required for working in groups (team building).

CO 5: Explain organizational culture and describe its dimensions and to examine various organizational designs.

CO 6: Discuss the implementation of organizational change.

Program	Semester	Course Code	Course Name
BBA	3	SDC231RET	Retailing

After successful completion of this course, the students are able to

CO 1: Know the retailing business, its growth in India and social impact

CO 2: Understand the and organization and supply in retailing

CO 3: Comprehend the opportunities and challenges in retailing

CO 4: Learn the functions that support outlet operations, sales and services

CO 5: Create a shopping experience model that builds customer loyalty and business promotion

Program	Semester	Course Code	Course Name
BBA	4	BBA 241TD	Training and development

By successfully completion of the course, student will be able to

CO 1: To develop an understanding of the evolution of training & development from a tactical to a strategic function.

CO 2: To provide an insight into what motivates adults to learn and the most appropriate methodologies to impart training

CO 3: To understand the concept of training audit & training evaluation

CO 4: To learn how design a training module and execute it

CO 5: To understand the need for and concept of Performance Management

CO 6: To understand various strategies used by organizations to measure performance & reward for the same

Program	Semester	Course Code	Course Name
BBA	4	BBA 241MSME	Micro,Small and Medium Enterprises Management

By successfully completion of the course, student will be able to

CO 1: To create an awareness on various Entrepreneurship Development Programme

CO 2: To enable them to understand project formulation

CO 3: To familiarize the students with EDP schemes

CO 4: To give an introduction about MSME and Various measures for their development

CO 5: To create an awareness on various sources of finance

Program	Semester	Course Code	Course Name
BBA	4	BB241IB	International Business

CO 1: Basic informational learning by the students regarding Domestic and International/Foreign Trade. Modes of entry- trade theories

CO 2: Determining Factors influencing exchange rate fluctuations and Euro market, instruments.

CO 3: Analysis of Balance of payment: Contents, disequilibria in BOP, measures to bring back equilibrium in BOP

CO 4: Analysis of WTO and Trade blocks – WTO Foundation, advantages and Disadvantages of WTO Procedure and Documents: Export and Import Procedure, Principal and Auxiliary documents

Program	Semester	Course Code	Course Name
BBA	4	BBA 241CMA	Cost and management accounting

CO 1: Introduction of Cost Accounting and management accounting – Cost Concept and Classification.

CO 2: A practical exposer of FIFO, LIFO, Weighted average, (including problems). Labour: Control of labour costs time keeping and time booking Idle time Methods of remuneration labour incentives schemes

CO 3: Determining of Financial statement Analysis: Financial Statements Need for analysis of financial statements-comparative statements- common size statements- Trend analysis.

CO 4: Practical expose of Ratio Analysis: Meaning - Accounting Ratios - uses - limitations - types of ratios.

CO 5: Problematic to the students Marginal Costing -cost classification- differences between marginal costing and absorption costing - marginal cost equation- contribution- p/v ratio- margin of safety

Program	Semester	Course Code	Course Name
BBA	4	BBA232OB	Business Law

After successful completion of this course, the students are able to

CO 1: Understand the essentials of a valid contract and its kinds . Understand the essentials of offer and acceptance, consideration . Will know how a contract is discharged and when the breach of contract arises followed by its remedies.

CO 2: Make understand the impact of companies act and its kinds . This also helps students to know about the documents lie MOA & AOA in relation to incorporation of a company.

CO 3: Know the impact of factories act 1948 of how the health safety and welfare measures of the labourers are taken into consideration.

CO 4: Ensure about the concept of sale of goods act 1930 of understanding them the differences between sale and agreement to sell , conditions and warranties etc.. Will also know when a seller was unpaid and the various rules of delivery .

CO 5: Know about the essential commodity act as well about the consumer protection act 1986 of how the consumers are protected with reference to various consumer councils .

Program	Semester	Course Code	Course Name
BBA	4	BBA241FS	Financial services

After successful completion of this course, the students are able to

CO 1: Understand the various services offered and various risks faced by banks

CO 2: Determine the need of financial system and describe how and why financial system works.

CO 3: Have a practical understanding of various financial institutions and their functioning

CO 4: Understand the dynamic changes of the banking industry and the policy responses because of the recent crisis

CO 5: Have a practical understanding of the various financial services both domestic and international wise.

CO 6: Be able to understand the management of mutual funds. Be provided with the knowledge of risk and rewards of investing in mutual funds.

CO 7: Have a practical understanding of RBI, its functioning, provision and operations and also able to understand various financial planning like credit and monetary planning

CO 8: Understand the money market, its different types and its functioning.

Program	Semester	Course Code	Course Name
BBA	4	SDC241PEL	Personality Enhancement and Leadership

By successful completion of the course, students will be able to:

CO 1: Develop comprehensive understanding of personality

CO 2: Know how to assess and enhance one's own personality

CO 3: Comprehend leadership qualities and their importance

CO 4: Understand how to develop leadership qualities

Program	Semester	Course Code	Course Name
BBA	5	BBA351TM	Talent Management

By the end of the course the student should be able to:

CO 1: To develop a clear understanding of Talents that are inculcated among the Employees in today's Business Environment.

CO 2: To measure the various strengths and weakness of the employees and establishing theories and

practices.

CO 3: To Monitor the current trends in utilization of Employees team spirit and also in analyzing their abilities and skills

CO 4: To bring out the learning and conceptual skills aiming the employees in order to reach the target.

CO 5: To analyze the 360 Degree Feedback from the existing staff and to implement the measures needed.

Program	Semester	Course Code	Course Name
BBA	5	BBA352GHRM	Global Human Resource Management

By successfully completion of the course, student will be able to

CO 1: To develop the understanding of the concept of human resource management and to understand its relevance in organizations.

CO 2: To develop necessary skill set for application of various HR issues.

CO 3: To analyse the strategic issues and strategies required to select and develop manpower resources.

CO 4: To integrate the knowledge of HR concepts to take correct business decisions.

CO 5: Integrated perspective on role of HRM in modern business. Ability to plan human resources and implement techniques of job design

Program	Semester	Course Code	Course Name
BBA	5	BBA353EI	Export and Import

CO 1: To Demonstrate understanding of export controls, intellectual property rights, and confidentiality in international trade.

CO 2: To apply knowledge of export sales, insurance, finance, and licensing to develop competitive export pricing strategies.

C0 3: Proficiently prepare export packaging, transportation methods, and documentation, optimizing benefits and duty drawbacks.

CO 4: Solve complex shipment issues, negotiate shipping documents, and formulate effective corporate marketing strategies for international trade.

CO 5: Exhibit competence in customs formalities, export/import documentation, and regulatory compliance in diverse import/export scenarios.

Program	Semester	Course Code	Course Name
BBA	5	BBA354BM	Brand Management

CO 1: To understand product management, corporate strategy, product life cycle and develop effective marketing strategies for products.

CO 2: Apply new product development techniques, include idea generation, concept testing, successful launch and tracking of new product programs.

CO 3: Demonstrate knowledge of brand management, crafting brand elements and building consumer brand associations.

CO 4: Effectively manage brand architecture and portfolios with insights into corporate branding tools for building brand equity.

CO 5: Learn to leverage and measure brand equity for strategic marketing decisions and brand development.

Program	Semester	Course Code	Course Name
BBA	5	**COM355FEM**	**Foreign Exchange Management**

After successful completion of this course, the students are able to

CO-1: Assess factors impacting exchange rates, understanding economic indicators and forces, which have impact in foreign markets and global markets.

CO-2: Apply financial instruments for hedging, optimizing international transactions with derivatives, like swaps, options futures.

CO-3: Navigate regulatory frameworks, ensuring compliance with legal and ethical considerations, which have impact in foreign markets and global markets

CO-4: Utilize quantitative techniques for assessing and managing foreign exchange exposure.

CO-5: Evaluate macroeconomic policies, formulating effective strategies for global financial environments that are helpful for traders in exchange markets.

Program	semester	Course code	Course name
BBA	5	COM356EP	E-Payments

CO1: Understand E-cash and Virtual Money Electronic Data interchange and about NEFT/RTGS/E Payment modes

CO2: Demonstrate knowledge of Automated Clearing and Settlement process and ATM networks, Fed wire etc

CO3: Identify and describe terms of Cryptography, Hash functions and Algorithm applications

CO4: Understand the different types of Mobile Payments, Wireless payments and different Wallets, Security Challenges in mobile payments

CO5: Develop the Electronic invoice and Payment systems its process, EIPP providers and elimination of paper, Scan based payments.

DEPARTMENT OF CHEMISTRY

Program	Semester	Course Code	Course Name
B. Sc (MPC, BZC, MBC, MFC)	I	CHE111IPC	General, Physical & Inorganic Chemistry

At the end of the course, the student will be able to;

CO 1: Understand the basic concepts of p-block d-block elements

CO 2: Explain the difference between solid, liquid and gasses in terms of intermolecular interactions.

CO 3: Understand the concept of orbitals & energy levels

CO 4: shape of covalent molecules, identify types of intermolecular forces and predict those that are important for a given molecule,

CO 5: relate the chemical and physical properties of substances to molecular structure, chemical bonding, and inter molecular interactions

Program	Semester	Course Code	Course Name
B. Sc (MPC, BZC, MBC, MFC)	II	CHE122OPC	Organic and physical Chemistry

At the end of the course, the student will be able to;

CO 1: Understand and explain the differential behavior of organic compounds based on fundamental concepts learnt.

CO 2: Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved.

CO 3: Learn and identify many organic reaction mechanisms including Free Radical Substitution, Electrophilic Addition and Electrophilic Aromatic Substitution.

CO 4: Correlate and describe the stereo chemical properties of organic compounds and reactions.

Program	Semester	Course Code	Course Name
B. Sc (MPC, BZC, MBC, MFC)	III	CHE233POC	Physical and Organic Chemistry

At the end of the course students will be able to:

CO 1: Separate the liquid mixtures using distillation process.

CO 2: Importance of EMF measurements and its applications

CO 3: Study nitrogen containing function groups with respect to their reactivity

CO 4: Study synthesis and role of amino acids and Proteins.

CO 5: Study of structural elucidation of various mono and disaccharides.

Program	Semester	Course code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	IV	CHE244IPC	Inorganic and Physical Chemistry

At the end of the course students will be able to

CO 1: Understand the basic concepts of d-block elements

CO 2: Apply various theories of complex compounds

CO 3: Explain the difference between solid, liquid and gases

CO 4: Compute the order of a reaction.

CO 5: Interpret the defects in the crystals

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	V	CHE355OSC	Organic and Spectroscopy of Organic compounds

At the end of the course students will be able to:

CO 1: Learn basic concepts of bonding and symmetry.

CO 2: Correlate the reactivity of various Heterocyclic compounds.

CO 3: Acquire knowledge on synthesis of desired alcohols using Grignard reagents

CO 4: Interpret IR spectroscopic peaks for identifying functional groups

CO 5: Predict the number of proton NMR signals expected from a given compound

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	I	CHE111VA(P)	Volumetric Analysis

At the end of the course student will be able to

CO 1: Understand the basic concepts of quantitative analysis

CO 2: Perform the techniques involved in volumetric analysis

CO 3: Understand the concepts and role of indicators used

CO 4: Acquire an idea about the significant figures and accuracy of reporting.

CO 5: Estimate the unknown present in the solution by suitable methods

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	II	CHE122MA(P)	Mixture analysis

At the end of the course student will be able to;

CO 1: Understand the basic concepts of qualitative analysis of inorganic mixture

CO 2: Use glassware, equipment and chemicals and follow experimental procedures in the laboratory

CO 3: Apply the concepts of common ion effect, solubility product and concepts related to qualitative analysis

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	III	CHE233AOC(P)	Analysis of Organic Compound

At the end of the course student will be able to

CO 1: Perform systematic qualitative analysis of organic compound

CO 2: Detect extra elements using Lassaigne's test

CO 3: Identify the functional group of the compound

CO 4: Analyze various organic compounds using documented procedures

CO 5: Identify organic compound by determination of melting point

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	IV	244	Analytical Skills

At the end of the course student will be able to

CO 1: Understand the basic concepts of qualitative analysis of inorganic mixture

CO 2: Use glassware, equipment and chemicals and follow experimental

procedures in the laboratory

CO 3: Apply the concepts of common ion effect, solubility product and concepts related to qualitative analysis

CO 4: Analyze various salt mixtures using documented procedures

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	V	CHE355PI(P)	Physical and Instrumentation

At the end of the course student will be able to

CO 1: Determine the rate constant of acid catalyzed ester hydrolysis

CO 2: Prove 1 st order kinetics of decomposition of hydrogen peroxide

CO 3 : Determine the partition coefficient of benzoic acid distributed between benzene and water

CO 4 : Find the viscosity of unknown composition of glycerol and water mixture

CO 5 : Study the effect of electrolyte on CST of phenol + water system

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	V	CHE356IA(P)	Inorganic and Analytical

At the end of the course student will be able to

CO 1: Independently use PH meter and Conductivity meter for quantitative determination

CO 2: get hands on training in use of spectrophotometer

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	V	CHE356SOC	synthetic organic chemistry

Students after successful completion of the course will be able to:

CO 1: Identify the importance of reagents used in the synthesis of organic compounds.

CO 2: Learn the fundamental ideas behind the many forms of pericyclic reactions.

CO 3: Understand the importance of retro synthesis in organic chemistry.

CO 4: Comprehend the applications of different reactions in synthetic organic chemistry.

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	V	CHE357SAO	Separation tech. & Analysis of Org. Compounds

Students after successful completion of the course will be able to:

CO 1: Describe the role of mass spectrometry in revealing the structural details of organic molecules.

CO 2: Learn about the structural analysis of organic molecules.

CO 3: Appraise the volumetric and gravimetric methods in analytical chemistry.

CO 4: Understand various chromatography methods in the separation and identification of organic compounds.

CO 5: Use knowledge of solvent extraction to separate organic molecules.

Department of Artificial Intelligence

Program	Semester	Course Code	Course Name
B.Sc(AAI)	I	CSC111PC	PROGRAMMING USING 'C'

On successful completion of the course, students will be able to

CO1: Understand the evolution and functionality of a Digital Computer.

CO2: Apply logical skills to analyze a given problem

CO3: Develop an algorithm for solving a given problem.

CO4: Understand 'C' language constructs like Iterative statements, Array processing, Pointers, etc.

CO5: Apply 'C' language constructs to the algorithms to write a 'C' language program.

Program	Semester	Course Code	Course Name
B.Sc(AAI)	II	CSC112DMS	Database Management System

On successful completion of the course, students will be able to

CO1: Describe the fundamental elements of relational database management systems.

CO2: Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.

CO3: Design ER-models to represent simple database application scenarios.

CO4: Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.

CO5: Design entity relationship and convert entity relationship diagrams into RDBMS and formulate SQL queries on the respect data into RDBMS and formulate SQL queries on the data

Program	Semester	Course Code	Course Name
B.Sc(AAI)	II	CSC123CN	COMPUTER NETWORKS

On successful completion of this practical course, the student will be able to:

CO1: Explain basic concepts, OSI reference model, services and role of each layer of OSI model and TCP/IP, networks devices and transmission media, Analog and digital data transmission

CO2: Apply channel allocation, framing, error and flow control techniques.

CO3: Describe the functions of Network Layer i.e. Logical addressing, subnetting & Routing Mechanism.

CO4: Explain the different Transport Layer function i.e. Port addressing, Connection Management, Error control and Flow control mechanism.

CO5: Explain the functions offered by session and presentation layer and their Implementation.

CO6: Explain the different protocols used at application layer i.e. HTTP, SNMP, SMTP, FTP, TELNET and VPN.

Program	Semester	Course Code	Course Name
B.Sc(NAI)	III	CSC231AML	APPLIED MACHINE LEARNING

On successful completion of this practical course, the student will be able to:

CO1: Gain knowledge about basic concepts of Machine Learning

CO2: Identify machine learning techniques suitable for a given problem

CO3: Solve the problems using various machine learning techniques

CO4: Apply Dimensionality reduction techniques.

CO5: Design application using machine learning techniques.

Program	Semester	Course Code	Course Name
B.Sc(NAI)	III	CSC232OOPJ	OBJECT ORIENTED PROGRAMMING USING JAVA

On successful completion of the course, students will be able to;

CO1: Understand object oriented programming concepts to solve real world problems.

CO2: Write programs using Java collection API as well as the java standard class library

CO3: Understand underlying principles of Object-Oriented Programming in Java.

CO4: Demonstrate the implementation of inheritance (multilevel, hierarchical and multiple) by using extend and implement keywords.

CO4: Use dynamic and static polymorphism to process objects depending on their class.

CO5: Demonstrate the user defined exceptions by exception handling keywords (try, catch, throw, throws and finally).

CO6: Use multithreading concepts to develop inter process communication.

CO7: Describe the backend connectivity process in java program by using JDBC drivers.

Program	Semester	Course Code	Course Name
B.Sc(NAI)	IV	CSC243SML	Statistical Machine Learning

At the end of the course student will

- **CO 1 :** Structure and divide statistical learning problems into tractable sub-problems, formulate a mathematical solution to the problems and implement this solution using statistical software.
- **CO 2 :** Use and develop linear and nonlinear models for classification and regression.
- **CO 3 :** Describe the limitations of linear models and understand how these limitations can be handled using nonlinear models.
- **CO 4 :** Explain the basic ideas of Bayesian modeling and be able to use them for classification and regression.

Program	Semester	Course Code	Course Name
B.Sc(NAI)	IV	CSC244TF	Tensor flow

At the end of the course student will

CO1: To learn how to create, train and deploy machine learning models using the Tensorflow framework.

CO2: Ability to implement best practices for data automation and model tracking.

CO3: Using production level tools to perform monitoring and model retrainging.

CO4: Understand the deep learning concepts such as activation functions and gradient decent.

Program	Semester	Course Code	Course Name
B.Sc(NAI)	IV	CSC245DS	DATA STRUCTURES

At the end of the course student will

CO 1: Understand available Data Structures for data storage and processing.

CO 2: Comprehend Data Structure and their real-time applications-Stack, Queue, Linked List, Trees and Graph

CO 3: Choose a suitable Data Structures for an application

CO 4: Develop ability to implement different Sorting and Search methods

CO 5: Have knowledge on Data Structures basic operations like insert, delete, search, update and traversal

CO 6: Design and develop programs using various data structures

CO 7: Implement the applications of algorithms for sorting, pattern matching etc

Program	Semester	Course Code	Course Name
B.Sc(NAI)	IV	CSC246SE	SOFTWARE ENGINEERING

At the end of the course student will

CO 1: Students will be able to decompose the given project in various phases of a lifecycle.
CO 2: Ability to apply software engineering principles and techniques.
CO 3: Ability to develop, maintain and evaluate large-scale software systems.
CO 4: To produce efficient, reliable, robust and cost-effective software solutions.

CO 5: Students will be able to choose appropriate process model depending on the user requirements.
CO 6: To communicate and coordinate competently by listening, speaking, reading and writing english for technical and general purposes.
CO 7: Ability to work as an effective member or leader of software engineering teams.
CO 8: To manage time, processes and resources effectively by prioritising competing demands to achieve personal and team goals Identify and analyses the common threats in each domain.

CO 9: Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance.

Program	Semester	Course Code	Course Name
B.Sc(DAI)	V	CSC3511INN	INTRO. TO NEURAL NETWORKS & DEEP LEARNING

On successful completion of the course, students will be able to;

CO1: Describe the feed-forward and deep networks.

CO2: Design single and multi-layer feed-forward deep networks and tune various hyper-parameters.

CO3: Implement deep neural networks to solve a problem.

CO1: Analyse performance of deep networks.

CO4: Understand the characteristics and types of artificial neural network and remember working of biological Neuron and Artificial Neural Network.

CO5: Apply different types of auto encoders with dimensionality reduction and regularization.

CO6: Design Convolutional Neural Network and classification using Convolutional Neural Network.

Program	Semester	Course Code	Course Name
B.Sc(DAI)	V	CSC3512OS	OPERATING SYSTEMS

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

CO1: Know Computer system resources and the role of operating system in resource Management with algorithms

CO2: Understand Operating System Architectural design and its services.

CO3: Gain knowledge of various types of operating systems including Unix and Android.

CO4: Understand various process management concepts including scheduling, synchronization, and deadlocks.

CO5: Have a basic knowledge about multithreading.

CO6: Comprehend different approaches for memory management.

CO7: Understand and identify potential threats to operating systems and the security features design to guard against them.

CO8: Specify objectives of modern operating systems and describe how operating systems have evolved over time.

CO9: Describe the functions of a contemporary operating system

Program	Semester	Course Code	Course Name
B.Sc(DAI)	V	CSC3513NLP	NATURAL LANGUAGE PROCESSING

On successful completion of this practical course, the student will be able to

CO1: Show sensitivity to linguistic phenomena and an ability to model them with formal grammars

CO2: Understand and carry out proper experimental methodology for training and evaluating empirical NLP systems

CO3: Able to manipulate probabilities, construct statistical models over strings and trees, and estimate parameters using supervised and unsupervised training methods.

CO4: Able to design, implement, and analyze NLP algorithms

CO5: Able to design different language modeling Techniques.

Program	Semester	Course Code	Course Name
B.Sc(DAI)	V	CSC3514NLP	Theoretical Machine Learning

On successful completion of this practical course, the student will be able to

CO1: Machine learning studies automatic methods for learning to make accurate predictions or useful decisions based on past observations.

CO2: This course introduces theoretical machine learning, including mathematical models of machine learning, and the design and rigorous analysis of learning algorithms.

CO3: Likely topics include: bounds on the number of random examples needed to learn;

CO4: learning from non-random examples in the on-line learning model;

CO5: how to boost the accuracy of a weak learning algorithm; support-vector machines; maximum-entropy modeling; portfolio selection; game theory.

Program	Semester	Course Code	Course Name
B.Sc(DAI)	V	CSC3515DOC	Digital Computer Organization And Introdoction To Computer System Architecture

On successful completion of this practical course, the student will be able to

CO1: Students will learn about what the main physical components of a computer are, why 0 and 1 are such important numbers within computer.

CO2: Ability to understand the internal components and basic structure of computer.

CO3: To know the background of internal communication of the computer.

CO4: Demonstrate a comprehensive understanding of basic logic gates, data representation and Boolean algebra.

CO5: To comprehend how the circuits are designed to process ALU and Memory operations.

CO6: The ability to know about how physical internal and external components communicate through bus.

Department of Big Data Analytics

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	**I**	**CS111PC**	**PROGRAMMING USING 'C'**

By successful completion of the course, students will be able to:

CO 1: Understand the evolution and functionality of a Digital Computer.

CO 2: Apply logical skills to analyse a given problem

CO 3: Develop an algorithm for solving a given problem.

CO 4: Understand 'C' language constructs like Iterative statements, Array processing, Pointers, etc.

CO 5: Apply 'C' language constructs to the algorithms to write a 'C' language program.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	CS111PC (P)	C PROGRAMMING LAB

On successful completion of this practical course, the student will be able to:

CO 1: Read, understand and trace the execution of programs written in C language.

CO 2: Write the C code for a given algorithm.

CO 3: Implement Programs with pointers and arrays, perform pointer arithmetic, and

CO 4: use the pre-processor.

CO 5: Write programs that perform operations using derived data types.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	CS112DBMS	DATABASE MANAGEMENT SYSTEM

On successful completion of the course, students will be able to;

CO 1: Understand the database approach and acquire knowledge in Database Management Systems.

CO 2: Demonstrate an understanding of the relational data model.

CO 3: Perceive the essential elements in constructing ER, EER models

CO 4: Intuit the procedure in mapping the ER to relational schema

CO 5: Epitomize an understanding of normalization theory and apply such knowledge to the normalization of a database

CO 6: Able to use an SQL interface to create tables and views, insert/update/delete data and query a database

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	CS112DBMS(P)	MySQL LAB

On successful completion of this practical course, the student will be able to:

CO1: Understand how to create and maintain database using SQL Commands

CO 2: Using DDL Commands (Create, Alter, Drop, Truncate and Rename)

CO 3: Using DML Commands (Select, Insert, Update and Delete)

CO 4: Working with SQL Queries using where clause and Operators in, between, like etc

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	II	CSC123DV	Data Visualization

On successful completion of this practical course, the student will be able to:

CO 1: Design and create data visualizations.

CO 2: Conduct exploratory data analysis using visualization.

CO 3: Craft visual presentations of data for effective communication.

CO 4: Use knowledge of perception and cognition to evaluate visualization design alternatives.

CO 5: Design and evaluate color palettes for visualization based on principles of perception.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	II	CSC124BDA	BIG DATA ANALYTICS

At the end of the course student will

CO 1: Learn tips and tricks for Big Data use cases and solutions.

CO 2: Learn to build and maintain reliable, scalable, distributed systems with Apache Hadoop.

CO 3: Able to apply Hadoop Ecosystem components

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	III	CSC235DWM	DATA WAREHOUSING & DATA MINING

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

CO 1: Understand Data Warehouse fundamentals, Data Mining Principles.

CO 2: Design appropriate classification techniques.

CO 3: Understand various tools of Data Mining and their techniques to solve the real time problems.

CO 4: Learn Multidimensional schemas suitable for data warehousing.

CO 5: Develop and apply critical thinking, problem solving, and decision making skills.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	III	CSC235DWM(P)	WEKA LAB

On successful completion of this practical course, the student will be able to:

CO 1: Identify source tables and populate sample data

CO 2: Build Data Warehouse

CO 3: Design multi-dimensional data models

CO 4: Work with DMLQ(Data Mining Query Language)

CO 5: Write ETL(Extract-Transform-Load.) scripts and implement using data warehouse tools.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	III	CSC236DST	DATA STORAGE TECHNOLOGIES AND NETWORKS

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

CO 1: Understand Data storage Technologies and Networks.

CO 2: Learn about different types of storage systems, storage networking technologies

CO 3: Learn concepts related to SAN, NAS and Cloud Storage.

CO 4: This course will also cover key concepts related to cloud computing, and some of the new Trends in the storage industry.

CO 5: To explain the design of a data centre and storage requirements

CO 6: To discuss the various types of storage and their properties

CO 7: Understand concepts related to storage Architecture

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	III	CS236DST(P)	DATA STORAGE TECHNOLOGIES LAB

On successful completion of this practical course, the student will be able to: CO 1: Understand Data storage Technologies and Networks

CO 2: Understand concepts related to storage Architecture

CO 3: Learn concepts related to SAN, NAS and Cloud Storage.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	III	CS237JAVA	OBJECT ORIENTED PROGRAMMING USING JAVA

On successful completion of the course, students will be able to;

CO 1: Understand object oriented programming concepts to solve real world problems.

CO 2: Write programs using Java collection API as well as the java standard class library

CO 3: Understand underlying principles of Object-Oriented Programming in Java.

CO 4: Demonstrate the implementation of inheritance (multilevel, hierarchical and multiple) by using extend and implement keywords.

CO 5: Use dynamic and static polymorphism to process objects depending on their class.

CO 6: Demonstrate the user defined exceptions by exception handling keywords (try, catch, throw, throws and finally).

CO 7: Use multithreading concepts to develop inter process communication.

CO 8: Describe the backend connectivity process in java program by using JDBC drivers.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	III	CS237JAVA(P)	JAVA LAB

On successful completion of the course, students will be able to;

CO 1: develop an in depth understanding of programming in Java: data types, variables, operators, operator precedence, Decision and control statements, arrays, switch statement, Iteration Statements, Jump Statements, Using break, Using continue, return.

CO 2: write Object Oriented programs in Java: Objects, Classes constructors, returning and passing objects as parameter, Inheritance, Access Control, Using super, final with inheritance Overloading and overriding methods, Abstract classes, Extended classes.

CO 3: develop understanding of developing packages & Interfaces in Java: Package, concept of CLASSPATH, access modifiers, importing package, Defining and implementing interfaces.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	IV	CS24VIIIHDA	Hadoop & Data Analysis

At the end of the course student will

CO 1: Preparing for data summarization, query, and analysis.

CO 2: Applying data modelling techniques to large data sets

CO 3: Creating applications for Big Data analytics

CO 4: Building a complete business data analytic solution

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	IV	CS24IXPOS	Principles of Operating Systems

At the end of the course student will

CO 1: Know Computer system resources & the role of operating systems in resource management with algorithms **CO2**: Understand Operating System Architectural design and its services.

CO 3: Gain knowledge of various types of operating systems including Unix and Android.

CO 4: Understand various process management concepts including scheduling, synchronization, and deadlocks.

CO 5: Have a basic knowledge about multithreading.

CO 6: Comprehend different approaches for memory management.

CO 7: Understand and identify potential threats to operating systems and the security features design to guard

against them.

CO 8: Specify objectives of modern operating systems & describe how operating systems have evolved over time.

CO 9: Describe the functions of a contemporary operating system

Program	Semester	Course Code	Course Name
B.Sc., (CS with Big Data)	IV	CS2XDCO	DIGITAL COMPUTER ORGANIZATION AND INTROD. TO COMPUTER SYSTEM ARCHITECTURE

At the end of the course student will

CO 1: To make the students to understand different types of Digital logic circuits

CO 2 : To design procedures

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CS35XIDS	DISTRIBUTED SYSTEMS

By successful completion of the course, students will be able to:

CO 1: To understand the architectures of distributed systems.

CO 2: To understand and compare the technologies associated with

presentation and interaction services.

CO 3: To acquire the knowledge in component models of Session and Entity Beans.

CO 4: To provide the better understanding of ASP.NET programming with web server controls.

C O 5: To be familiar with rich web controls and data access technology in ADO.NET

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CSC35X1DS(P)	DISTRIBUTED SYSTEMS LAB

On successful completion of this practical course, the student will be able to:

CO 1: Define terms related to the Internet, demonstrate the ability to use the World Wide Web,

CO 2: Understand and use common types of files found on the internet.

CO 3: Design web pages

CO 4: Create basic Web pages with HTML and CSS.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CSC3512	Cyber Security

By successful completion of the course, students will be

able to: CO 1: Understand Basics of cyber security concepts

CO 2: Understand Different types of security attacks

CO 3: Study Roles of International law

CO 4: Get information about National cyber security policy ➢ Know what is a cyber crime

CO 5: How to provide security

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CS35XIICS(P)	CYBER SECURITY LAB

By successful completion of the course, students will be

able to:

CO 1: Provide security to Personal Computer

CO2: Protect documents

CO 3: Protect Databases

CO 4: Setting Credentials

CO5: Cracking passwords

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CSC3513	ADVANCED JAVA

By successful completion of the course, students will be able to:

CO 1: To understand the meaning and basic components of servlets and JSP

CO 2: To know the required software to run PHP programs

CO 3: Understanding the use of servers

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CS35XIIIJAVA(P)	ADVANCED JAVA PROGRAMMING LAB

By successful completion of the course, students will be able to:

CO 1: an ability to apply knowledge on JDBC,

CO 2: an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution, using various Sql operations,

CO 3: an ability to design, implement, database using HTML

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CSC3514	DATA STRUCTURES

On successful completion of this practical course, the student will be able to

CO 1: Understand available Data Structures for data storage and processing.

CO 2: Comprehend Data Structure and their real-time applications-Stack, Queue, Linked List, Trees and Graph

CO 3: Choose a suitable Data Structures for an application

CO 4: Develop ability to implement different Sorting and Search methods

CO 5: Have knowledge on Data Structures basic operations like insert, delete, search,

update and traversal

CO 6: Design and develop programs using various data structures

CO 7: Implement the applications of algorithms for sorting, pattern matching etc

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CS35XIVDS(P)	DATA STRUCTURES USING C

On successful completion of this practical course, the student will be able to;

CO1: Identify the appropriate data structure for a given problem.

CO 2: Design programs for solving problems using different data structures.

CO 3: Solve problems using trees, graphs and hash tables addressing various issues.

CO 4: Ability to effectively use compilers includes library functions, debuggers and troubleshooting.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CS35XVSE	SOFTWARE ENGINEERING

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

CO 1: Students will be able to decompose the given project in various phases of a lifecycle.

CO 2: Ability to apply software engineering principles and techniques.

CO 3: Ability to develop, maintain and evaluate large-scale software systems.

CO 4: To produce efficient, reliable, robust and cost-effective software solutions.

CO 5: Students will be able to choose appropriate process model depending on the user requirements.

CO 6: To communicate and coordinate competently by listening, speaking, reading and writing English for technical and general purposes.

CO 7: Ability to work as an effective member or leader of software engineering teams.

CO 8: To manage time, processes and resources effectively by prioritizing competing demands to achieve personal and team goals Identify and analyze the common threats in

each domain.

CO 9: Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	V	CS35XVSE(P)	SOFTWARE DESIGE TOOLS (UML)

On successful completion of this practical course, the student will be able to
CO 1: Understand the Case studies and design the Model..
CO 2: Understand how design patterns solve design problems.
CO 3: Develop design solutions using creational patterns.
CO 4: Construct design solutions by using structural and behavioral patterns

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	FOU111ICT	INFORMATION COMMUNICATIO N TECHNOLOGY (ICT)

On successful completion of this practical course, the student will be able to;

CO 1: Discovering the milestones of ICT history;

CO 2: Acknowledging the role of technologies in modern society and the potential of social web

CO 3: Identifying IT uses in digital citizenship contexts.

CO 4: Briefly exploring different tools and communication environments on the Internet;

CO 5: Choosing the appropriate IT tool for the relevant context.

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	**SDC122AE**	**ADVANCED EXCEL**

On successful completion of the course, students will be able to;

CO 1: Work with basic functions of Excel

CO 2: Formatting worksheet

CO 3: Can perform operations like Filter, Sort etc.

CO 4: Do date and time validations

CO 5: Can work with Lookup Functions

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	**SDC122PL**	**PROGRAMMING IN PL/SQL**

On successful completion of the course, students will be able to;

CO 1: Understand the fundamentals of Creating and Running PL/SQL Code.

CO 2: Learn about PL/SQL Program Structure

CO 3: Understand the Loop Basics

CO 4: Learn about PL/SQL Program Data

CO 5: Get the knowledge about Procedures, Functions, and Parameters

CO 6: Learn about the I/O and PL/SQL

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	**SDC122SQL**	**ANALYSIS BIG DATA WITH SQL**

On successful completion of the course, students will be able to;

CO 1: Structured Query Language (SQL) to extract and analyse data stored in databases. CO 2: Extract data, join tables together, and perform aggregations. CO 3: learn to do more complex analysis and manipulations using subqueries CO 4: SQL queries to successfully handle a variety of data analysis tasks.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	I	AECO 141	Fundamentals of Agriculture economics

At the end of the course student will

CO1: Identify elements of business success in agriculture and food-processing as well as elements that determine the economic role of agriculture in the national economy.

CO2: Propose methods of micro- and macroeconomic decision making in agriculture in different agro- ecological and Agro-economic circumstances.

CO3: Describe and explain models of production, supply and demand of agricultural and food products on national and international markets

CO4: Understand the concepts of consumer choice and how it affect the farm / ranch level agriculture firm.

CO5: Understand the macroeconomics aspects of the economy as they affect the agricultural sector.

CO6: Apply economics principles to understand the conduct and performance of the agricultural industry.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	I	AEXT 191	Rural sociology, educational psychology and human values

At the end of the course student will

CO 1: Understand concept of rural sociology, its importance in agricultural extension, characteristics of Indian rural society .

CO 2: Understand social groups, social stratification, culture, social values, social control and attitudes, leadership and training.

CO 3: Understand concept of educational psychology, intelligence, personality, perceptions,

emotions, frustration, motivation, teaching and learning

CO 4: Acquaint with characteristics of rural society, village institutions and social organizations. Select lay leaders and train them.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	I	AGRO101	Fundamentals of Agronomy

At the end of the course student will

CO 1: Understand the Crop production techniques and crop growth in relation to environment

CO 2: Understand the Zero and minimum tillage: their basics and application

CO 3: Learn Precision agriculture and Precision farming, their concepts and application

CO 4: Understand the Biotic and abiotic stresses; concept of ideal plant type

CO 5: Learn Types of tillage and types sowing methods

CO 6: Basics and application crop production under protective agriculture

CO 7: Learn Irrigation methods

CO 8: Understand the Herbicides, bio-herbicides- their classification and biological control of weeds

CO 9: Learn control of weed in non-cropped situations using different methods

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	I	HORT181	Fundamentals of Horticulture

At the end of the course student will

CO 1: Students will be able to identify plant vegetative structure

CO 2: Students will understand basic principles, processes and plant propagation methods.

CO 3: Students will understand how to propagate plants, manage and harvest a variety

of plant.

CO 4: Students will understand how to propagate plant, manage and harvest a variety of plant.

CO 5: Students will understand recognize various crop harvesting, transportation, and processing

CO 6: Students will Understand the Kitchen gardening, Lawn making

CO 7: Understand transplantation Medicinal, Aromatic plants Spices and Condiments

CO 8: Learn Irrigation and fertilizer application techniques for horticulture crops

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	I	BICM101	Fundamentals of Plant Biochemistry and Soil Science

At the end of the course student will

CO 1: Understanding of Biochemistry as a discipline and milestone discoveries in life sciences that led to establishment of Biochemistry as a separate discipline.

CO 2: Fundamental properties of elements, their role in formation of biomolecules and in chemical reactions within living organisms.

CO 3: Understand plant cell structure, organization, and apply specific biochemical functions to all compartments of the plant cell.

CO 4: Learn amino acid structures and relate their chemical properties to the synthesis and function of proteins and enzymes.

CO 5: Understand protein structural hierarchy and relate structure to function.

CO 6: understand central metabolism, its plant-specific components, and their functional significance at multiple levels and explore principles of metabolic modeling.

CO 7: To aware the students about causes, effects and remedies to prevention and mitigation of soil pollution.

CO 8: Knowledge about soil forming rocks and minerals, their weathering and soil forming processes and climatic factors affect them

CO 9: To be able about physical and chemical properties of soil and their effect on plant's health

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	I	CC111 MSP	Minimum supporting Price for Agriculture Crops In AP

At the end of the course student will

CO 1: Understanding of MSP in Agricultural Crops

CO 2: Understanding of MSP in Horticultural Crops

CO 3: Understanding of MSP in Indian Economy

CO 4: Understanding of MSP in AP Economy

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	I	SDC 111 VC	VERMICOMPOST

At the end of the course student will

CO 1: Understanding brief description methods of preparation of vermicompost

CO 2: Materials used for vermicompost bed

CO 3: Procedure for preparation of vermicompost by step by step

CO 4: Advantages and Disadvantages in Vermicompost.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	II	AGRO103	Introductory Agrometeorology And Climate Change

At the end of the course student will understand

CO 1: Earth atmosphere, composition, extent and structure; Atmospheric weather variables; Atmospheric pressure, its variation with height

CO 2: Nature and properties of solar radiation, solar constant, depletion of solar radiation, short wave, long wave and thermal radiation, net radiation.

CO 3: Atmospheric humidity, concept of saturation, vapor pressure, process of condensation, formation of dew, fog, mist, frost, cloud

CO 4: Artificial rainmaking; Monsoon, mechanism and importance in Indian agriculture.

CO 5: Weather forecasting, types of weather forecast and their uses.

CO 6: Climate change, climatic variability, global warming, causes of climate change

CO 7: Atmospheric temperature, temperature inversion

CO 8: Precipitation, process of precipitation

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	II	PATH171	Fundamentals Of Plant Pathology

At the end of the course student will

Course Outcomes

CO 1: Importance of plant diseases, scope and objectives of Plant Pathology.

CO 2: Diseases and symptoms due to abiotic causes. Fungi: General characters, definition of fungus, somatic structures.

CO 3: Nomenclature, Binomial system of nomenclature, rules of nomenclature.

CO 4: Basic methods of classification and reproduction.

CO 5: Nematodes: General morphology and reproduction

CO 6: classification, symptoms and nature of damage caused by plant nematodes (Heterodera, Meloidogyne, Anguina etc.)

CO 7: viruses: nature, architecture, multiplication and transmission. Study of phanerogamic plant parasites.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	II	ENTO131	Fundamentals Of Entomology

At the end of the course student will understand

CO 1: History of Entomology in India

CO 2: Structure and modifications of insect antennae, mouth parts, legs, wing venation, modifications and wing coupling apparatus.

CO 3: Types of reproduction in insects

CO 4: Insect Taxonomy

CO 5: Classification of class Insecta Upto orders.

CO 6: Relationship of class Insecta with other classes of Arthropoda.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	II	GPBR111	Genetics & Plant Breeding

At the end of the course student will understand

CO 1: Pre Mendelian concepts of heredity

CO 2: Chromosome - Structure of chromosome, types of chromosomes

CO 3: Linkage

CO 4: Sex determination in plants

CO 5: Cell division , Cell cycle , Mitosis

CO 6: Mutation - Classification - Gene mutations

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	II	AENG151	Soil And Water Conservation Engineering

At the end of the course student will understand

CO 1: Introduction to soil and water conservation and causes soil erosion

CO 2: Wind erosion –Mechanics of wind erosion, types of soil movement

CO 3: Open channel hydraulics

CO 4: Soil loss estimation by universal soil loss equation

CO 5: Fundamental components of micro irrigation systems

CO 6: Definition and agents of soil erosion

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	II	SDC121SBP	Seed Bed Preparation

At the end of the course student will understand

CO 1: Introduction to seed bed

CO 2: preparation of beds

CO 3: Design criteria and constructional details of seed bed

CO 4: Uses of seed bed

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	II	CC121 ZBNF	Zero Budget Natural Farming

At the end of the course student will understand

CO 1: For the capacity building of resources persons and farmer experts

CO 2: On farm farmer trainings

CO 3: Organic certification **CO**

4: ZBNF input shops

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	III	**AGRO 201**	**Crop Production Technology – I (Cereals, Millets and Pulses)**

At the end of the course student will understand

CO1: Introduction and development of agriculture.

CO2: Nutrient management with special emphasis on nitrogen dynamics, micro nutrients -INM

CO3: Harvesting -Yield attributes - yield - post harvest operations

CO4: Land Preparation - seeds and sowing - nutrient management - water management - weed management - climate resilient technologies

CO5: Maize- Origin- geographical distribution

CO6: Land Preparation –physico – chemical and biological changes under submerged soil

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	III	**AGRO 202**	**CROP PRODUCTION TECHNOLOGY–II (OIL SEEDS, FIBER, SUGAR, TOBACCO AND FODDER CROPS**

1. .

Course Outcomes

CO1: Importance of oilseed crops- edible and non – edible oils – nutritional value importance in Indian economy

CO2: Soil and climatic requirements - types - growth stages - land Preparation -seeds and sowing-seed treatment-seed rate-spacing-season-time and method of sowing varieties

CO3: Nutrient management- water management- weed management yield attributes – yield-Harvesting – post harvest operations- quality considerations – cropping systems

CO4: Nursery management-seeds and sowing for different types- seed treatment-seed rate-spacing-season-time and method of sowing

CO5: Ratoon cane management – factors affecting quality of sugarcane – arrowing– jaggery making – clarification

CO6: Origin - geographical distribution and productivity in India and Andhra Pradesh of ground nut, soyabean, sunflower, sesame, safflower, castor, Rapeseed and mustard.

CO7: Forage crops- Importance- terminology in forage production-classification of fodders

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	III	AENG-351	Protected cultivation and post harvest technologies

Course outcomes

CO1: Understanding the concepts in greenhouse technology.

CO2: Acquaintance with the types of greenhouses.

CO3: Acquaintance with different materials for construction of greenhouses.

CO4: Understanding the concepts of Irrigation systems used in greenhouses.

CO5: Understanding the concepts of drying of agriculture produced in greenhouses.

CO6: Understanding the handling equipment that used in greenhouses.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**AGR303**	**RAINFED AGRICULTURE AND WATERSHED MANAGEMENT**

Course Outcomes

CO1: Definition – dimensions of the problem – area and production from dry lands in India and Andhra Pradesh

CO2: Problems and prospects of rainfed agriculture in India- climate – rainfall pattern – distribution

CO3: Problems and prospects of rainfed agriculture in India - soil characteristics – soil fertility status

CO4: Effect of water deficits on physio-morphological characteristics of the plants

CO5: Tillage for rainfed crops – off-season tillage – primary tillage –secondary tillage – year round tillage

CO6: Soil erosion – definition – losses due to erosion- factors affecting erosion – universal soil loss equation.

CO7: Management of crops in rainfed areas - Agronomic measures of soil and water conservation.

CO8- Watershed – definition – concept— objectives and principles of water shed management

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**SMCA301**	**AGRICULTURE INFORMATICS**

Course Outcomes

CO1: Explain Windows explorer- Creating folder - Copy and paste functions - Control panel Notepad -WordPad etc.

CO2: Summarize MS word - Creating a document, saving and editing

CO3: Discuss Use of options from tool bars – Format - Insert and tools (Spelling and Grammar) - Alignment of paragraphs and text.

CO4: Explain to Creating a table - Merging of cells - columns and row width - Formats etc.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**GPBR312**	Crop improvement- II (Fibres, Sugars, Starches, Narcotics

Course Outcomes

CO1: Idea on Centers of origin, distribution of species, wild relatives

CO2: Knowledge on Plant genetic resources, its utilization and conservation.

CO3: Clear idea on plant morphology and floral biology of the crops under study.

CO4. Knowledge on major breeding objectives and procedures including conventional and modern innovative approaches for development of hybrids and varieties for yield and adaptability.

CO5. To know emasculation and hybridization techniques in different crop species; fibers, sugars, starches, narcotics, vegetables, fruits and flowers.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**ENTO 332**	**PESTS OF HORTICULTURAL CROPS AND THEIR MANAGEMENT & BENEFICIAL INSECTS**

Course Outcomes

CO1: General account on nature and type of damage by pest of various various vegetable crops, fruit crops, plantation crops, ornamental crops, narcotics, spices and condiments.

CO2: Study of Bhendi- Shoot and fruit borer

CO3: insect pest of Mango- Leafhoppers, stem borer, nut weevil

CO4: insect pest of Crucifers- Diamond back moth, cabbage head borer, leaf webber, aphid, painted bug, tobacco caterpillar and cabbage butterfly.

CO5: Silk worm diseases- Pebrine- Symptoms, mode of transmission.

CO6: Beekeeping- Importance and multiple source of income

CO7: Insect orders bearing predators and parasitoids used in pest control and their key identification characters

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**AECO341**	**FARM MANAGEMENT AND PRODUCTION RESOURCE ECONONMICS**

Course Outcomes

CO1: Definitions and Concepts Farm management and production Economics

CO2: To understand the Determination of optimum input and optimum output and decision rules.

CO3: To understand the types of production Function

CO4: To understand the Meaning and concept of cost, cost function /cost-output relationship - Types of production costs and their interrelationship - Importance of costs in managing farm business

CO5: Farm inventory - Meaning and importance of taking inventory on farm business - Different methods of appraisal and valuation of farm resources and products

CO6: Computation of depreciation cost of farm assets

CO7: Types of farming and types of Farm business Organization

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**PATH-372**	**DISEASES OF FIELD AND HORTICULTURAL CROPS AND THEIR MANAGEMENT-II**

Course Outcomes

CO1: Etiology, symptoms, host-parasite relationship and specific management practices of diseases in fruit crops.

CO2: Etiology, symptoms, host-parasite relationship and specific management practices of diseases in vegetable crops.

CO3: Etiology, symptoms, host-parasite relationship and specific management practices of diseases in flower crops.

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**HORT 381**	**POST-HARVEST MANAGEMENT AND VALUE ADDITION OF FRUITS AND VEGETABLES**

Course Outcomes

CO1: Idea on fruits and vegetables that needs post harvest management

CO2: Clear idea on causes for post harvest loses

CO3: Knowledge on different preservation methods to avoid post harvest loses.

CO4. Idea on packaging methods to avoid post harvest loses .

Program	Semester	Course code	Course Name
B. Sc., Agriculture and rural development	V	**AEXT 391**	**COMMUNICATION SKILLS AND PERSONALITY DEVELOPMENT**

Course Outcomes

CO1: Improvement in communication and grammar

CO2: Improved writing skill which is required for teaching and research purpose.

CO3: Holistic personality development

CO4: Coordinated functioning and time management.

BBA., RETAIL OPERATIONS

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	I	**BBA111IRO**	**INTRODUCTION TO RETAIL OPERATIONS**

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COURSE OUTCOME:

CO1: The learners will be able to comprehend the process, procedures of Retail Sector.

CO2: The learners will be able to relate the systems & protocols of retail stores operations.

CO3: The learners will be able to deconstruct the procedures of retail store practices.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	I	**BBA111IC**	**IN STORE CASHIERING AND MERCHANDISING OPERATIONS**

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COURSE OUTCOME:

CO1: The Learners will be able to demonstrate prompt practices at retail stores.

CO2: The learners will be able to assimilate the knowledge into practice of maintaining inventory, warehousing, etc

CO3: The Learners will be able to demonstrate practical knowledge associated with Visual Merchandising.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	I	**BBA111BCS**	**BUSINESS COMMUNICATION SKILL**

COURSE OUTCOME:

CO1: The learner will be able to apply communication skills with proficiency.

CO2: The learners will be well equipping with effective communication skills within a professional skill.

CO3: The learners will be able to understand various nuances of communication to a greater extent.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	II	**BBA121BBM**	**BASICS OF BUSINESS MANAGEMENT**

COURSEOUTCME:

CO1: The learners will be able to comprehend know how of the business environment.

CO2: The learners will be able to operate the framework for effective retailing.

CO3: The learners will be able to predict various sales & marketing strategy for retail.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	II	**BBA121IC**	**IN STORECASHIERING& MERCHANDISINGOPERATIONS**

COURSEOUTCOME:

CO1: Thelearners willbeabletounderstandthebasics ofPOS.

CO2: Thelearners willbeabletodistinguishthemechanismofdefiningproducts in a retail store.

CO3: Thelearnerswillbeabletoanalyze&interpretvariousactivitieslinkedtosales management.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	II	**BBA121BE**	**BUSINESS ECONOMICS**

COURSEOUTCOME:

CO1: Thelearnerswillbeabletounderstandtheroleofmanagerialeconomistinafirm.

CO2: Thelearners willbeabletoapplytheknowledgeofcostingindecisionmaking.

CO3: Thelearnerswillbeabletoidentifyandanalyzemarketpracticesandprocess in real life.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	II	**BBA121AP**	**RETAILASSOCIATECUMCASHIER**

CourseOutcome:

The learners will be able to perform retail cashiers &; retail trainee associate role within the organization.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	III	**BBA231CRM**	**CUSTOMER RELATIONSHIP MANAGEMENT**

COURSE OUTCOME:

CO1: The equip learners with the foundational knowledge of CRM

CO2: The learners will be able to identify the importance of customer value management

CO3: The learners will be able to know the best practices for long term profitability.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	III	**BBA231ECS**	**ERP & COMPUTER SKILLS**

.**COURSE OUTCOME:**

CO1: The learners will be able to identify the impact of using ERP

CO2: The learners will be able to know the working knowledge of how data is integrated in ERP

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	III	**BBA231SM**	**SALES MANAGEMENT**

.**COURSE OUTCOME:**

CO1: The learners will be able to understand the process of sales management

CO2: The learners will be able to identify the role and responsibilities of the sales manager

CO3: The learners will be able to know the concept of sales force and its responsibilities.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	III	**BBA231CRM**	**CUSTOMER REDRESSAL MECHANISM**

COURSE OUTCOMES:

CO1: Learners able to know the key concepts in grievance redress mechanisms

CO2: The learner will be able to investigate the key personal skills required and main roles and responsibilities of the grievance redress committee.

CO3: Learner will be able to know what are the key elements of effective complaint handling and the steps undertaken in handling complaints.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	IV	**BBA241FCA**	**FUNDAMENTALS OF FINANCIAL & COST ACCOUNTING**

COURSE OUTCOMES:

CO1: The student will be able to understand the importance of management accounting as a key input for managerial/ financial decision making.

The students will be able to take financial decisions using tools of management accounting.

CO2: Students will be able to apply the Basic knowledge of Management and cost accounting in the real-life situation

CO3: This subject will enable them to enhance their ability and professional skills

Program	Semester	Course code	Course Name

BBA., RETAIL OPERATIONS	IV	**BBA241FMD**	**FMCG DISTRIBUTION**

COURSE OUTCOME:

CO1: To know the roles & responsibilities of FMCG Distribution professionals

CO2: Helps to understand the distribution management process.

Program	Semester	Course code	Course Name
BBA., RETAIL OPERATIONS	IV	**BBA241NSR**	**NON-STORE RETAILING**

COURSE OUTCOME:

CO1: To develop knowledge of contemporary E- retail management issues at the strategic level.

CO2: To describe and analyse the way E-retailing works, specifically the key activities and relationships.

CO3: To provide an academic underpinning to the above through the application of E retailing theory and research.

DEPARTMENT OF HOTEL MANAGEMENT

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	I	HM111HK	HOUSEKEEPING

By successful completion of the course, students will be able to;

CO 1: The subject aims to establish the importance of Housekeeping and its role in the hospitality Industry.

CO 2: It also prepares the student to acquire basic knowledge and skills necessary for different tasks and aspects of housekeeping.

CO 3: Students to understand various procedures in Housekeeping.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	I	HM111HK (P)	HOUSEKEEPING LAB

By successful completion of the course, students will be able to;

CO 1: It is recommended that Demonstrations be conducted in the initial stages to make the students familiar

CO 2: Understand the Rooms layouts and standard Amenities placed in the room

CO 3: Develop skill in Identification of cleaning equipments (manual and Mechanical)

CO 4: Acquire skills to study and perform the procedure of Bed making

Program	Semester	Course code	Course Name
B. Sc., **Hotel Management**	I	HM 111 FP(P)	**FOOD PRODUCTION**

By successful completion of the course, students will be able to;

CO 1: It is recommended that Demonstrations be conducted in the initial stages to make the students familiar

CO 2: Understanding the usage and identification of equipments

CO 3: Develop skill in Cuts of vegetables

CO 4: Gain knowledge on different food preparations

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	I	HM111FBS	Food & Beverage service

By successful completion of the course, students will be able to;

CO 1: The course will give the students a comprehensive knowledge and develop technical skills in the basic aspects of food & beverage service operations in the Hotel Industry.

CO 2: To learn about Food & Beverage Service equipment- uses and sizes.

CO 3: Notice the Ancillary Areas of Food and Beverage Service

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	I	HM123FBS	Food and Beverage Service

By successful completion of the course, students will be able to;

CO 1: It is recommended that Demonstrations be conducted in the initial stages to make the students familiar

CO 2: Develop skill inCarrying Salvers and Holding of equipments.

CO 3: Understand the Basic Etiquettes for Restaurant Staff.

CO 4: GetKnowledge to operate with other interlink department

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	**I**	HM111FO	Front Office

By successful completion of the course, students will be able to;

CO 1: This course aims to establish the importance of Front Office within the hospitality industry.

CO 2: It also prepares the student to acquire basic skills.

CO 3: Get Knowledge on necessary to identify the required standards.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	I	HM111FO(P)	Front Office practical

By successful completion of the course, students will be

able to; CO 1: Get Knowledge of equipment.

CO 2: Develop skill in handling situations in the front office department.

CO 3: Gain knowledge on different Front office terminology

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	I	HR111PR	Public Relations

By successful completion of the course, students will be able to;

CO 1: To learn Public Relations Role in Business, Government, Politics, NGOs and Industry.

CO 2: Importance Tools of Public Relations.

CO 3: A brief Review of the Ethics of Public RelationsSocial Responsibility.

CI 4: Finally learn the Present and future of Public Relations in India.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	II	HM122HO	Housekeeping Operations

By successful completion of the course, students will be able to;

CO 1: The subject aims to establish the cleaning science and types of cleaning agents

CO 2: The student to acquire basic knowledge cleaning of various surfaces and metals and Public Areas

CO 3: Adopted to improve skills necessary for different tasks and aspects of housekeeping.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	II	HM122MSC	Meat & Sauce Cookery

By successful completion of the course, students will be able to; CO 1: Based on the sound knowledge of commodities and storing **CO 2:** Principles and methods of cooking it is desired

CO 3: To prepare students to evolve good understanding and prepare Classification of mother sauces.

CO 4: The course further introduces the students to the concepts of bakery & confectionery.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	II	HM122FSO	Food Service Operations

By successful completion of the course, students will be able to;

CO 1: The courses will give the students a comprehensive knowledge on menu

CO 2: To develop technical skills in the basic aspects of types of meals

CO 3: To acquire food service methods and control methods in the Hotel Industry.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	II	HM122RD	Room Division

By successful completion of the course, students will be able to;

CO 1: This course aims to establish the structure of Front Office organization within the hospitality industry.

CO 2: It also prepares the student to acquire basic skills Equipments used at front office and

CO 3: Get knowledge in necessary to successfully Front desk operations

CO 4: Identify the required standards in this area and to consider all aspects of this department.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	II	HM122HH	Health & Hygiene

On successful completion of the course, students will be able to;

CO 1: What is a healthy diet

CO 2: How can we use available information to optimize our diet?

CO 3: Can nutrition be used for a healthy life?

CO 4: Is there a one-size-fits-all “good” diet or should we individualize our dietary goals?

CO 5: Disaster management and responsiveness of public in pandemic and epidemic diseases

CO 6: Assess the impact of policies on health and hygiene Health measures to consider while traveling

CO 7: Awareness in public through digital media viz., mobile apps

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	II	HM122FVP	Fruit & Vegetable Preservation

On successful completion of the course, students will be able to;

CO 1: Identify various types of fruits and vegetables and explain their nutritive value.

CO 2: Understand the fragile nature of fruits and vegetables and causes for their damage.

CO 3: Explain various methods of preservation for fresh fruits and vegetables.

CO 4: Get to know the value-added products made from fruits and vegetables.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233LLO	Linen & Laundry Operations

On successful completion of the course, students will be

CO 1: To learn about the Housekeeping Supervision.

CO 2: Understand the importance of linen in housekeeping

CO 3: To know the types of Linen, cleaning and guest supplies.

CO 4: Student will get knowledge on laundry operation.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	233HK(P)	HOUSE KEEPING PRACTICALS

By successful completion of the course, students will be able to;

CO 1: Idealize and perform the Layout of Linen and Uniform Room

CO 2: Gets knowledge on operation of Laundry Machinery

CO 3: Develop skill in Flower Arrangement

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233IC	Indian cooking & menu planning

On successful completion of the course, students will be able to;

CO 1: Based on the sound knowledge of commodities and principles and methods of cooking.

CO 2: It is desired to prepare students to evolve good understanding and prepare Indian regional

menus in large quantities to suit the occasion.

CO 3: After doing this course, students should be able to plan and execute quantity menus.

CO 4: The course further introduces the students to the concepts of Rechauffe cookery.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233FP	Food production Practical

On successful completion of the course, students will be able to;

CO 1: It is recommended that Demonstrations be conducted in the initial stages to make the students familiar with practicals.

CO 2: Develop cooking skill in Indian cuisine.

CO 3: Gain knowledge on cooking meat preparations.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233BSO	Beverage service operations

On successful completion of the course, students will be able to;

CO 1: This course will give a comprehensive knowledge of the various alcoholic beverage.

CO 2: Non-alcoholic beverage used in the Hospitality Industry.

CO 3: It will give an insight into their history, manufacture.

CO 4: Classification, and also to develop technical and specialized skills in the service of the Beverage.

CO 5: Gets knowledge on bar and restaurant planning.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233BS	Beverage Service Practical

On successful completion of the course, students will be able to;

CO 1: It is recommended that Demonstrations be conducted in the initial stages to make the students familiar with practicals.

CO 2: Get knowledge on beverage equipment.

CO 3: Develop skill in service of alcoholic and non alcoholic beverages.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233SFO	Specialized Front office

By successful completion of the course, students will be able to;

CO 1: This course aims to establish the Registration and reservations within the Front office department.

CO 2: It also prepares the student to acquire basic skills.

CO 3: Knowledge necessary to successfully identify the required standards in this area.

CO 4: Knowing and considering all aspects of Accounting fundamentals.

CO 5: Learn how to control cash and guest safety and security.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233FO(P)	Front Office Practical

On successful completion of the course, students will be

able to;

CO 1: Gain knowledge on operation of keys

CO 2: Understand the process of making reservation and registration

CO 3: Acquire skilled knowledge on front office operation system

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233OB	Online Business

By successful completion of the course, students will be able to;

CO 1: Understand the online business and its advantages and disadvantages

CO 2: Recognize new channels of marketing, their scope and steps involved

CO 3: Analyze the procurement, payment process, security and shipping in online business

CO 4: Create new marketing tools for online business

CO 5: Define search engine, payment gateways and SEO techniques.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233EE	Environmental Education

By successful completion of the course, students will be able to;

CO 1: Understand the nature, components of an ecosystem and that humans are an integral part of nature.

CO 2: Realize the importance of the environment, the goods and services of a healthy biodiversity, and the dependence of humans on the environment.

CO 3: Evaluate the ways and ill effects of destruction of the environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.

CO 4: Discuss the laws/ acts made by the government to prevent pollution, to protect biodiversity and the environment as a whole.

CO 5: Acquaint with international agreements and national movements, and realize citizen's role in protecting the environment and nature.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	III	HM233ICS	Indian Culture and Science

By successful completion of the course, students will be

able to;

CO 1: Understand the evolution of India's culture

CO 2: Analyze the process of modernization of Indian society and culture from past to future

CO 3: Comprehend objective education and evaluate scientific development of India in various spheres

CO 4: Inculcate nationalist and moral fervor and scientific temper

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM351ACP	ADVANCED CULINARY PREPARATIO N

By successful completion of the course, students will be able to;

CO 1: This course develops the knowledge and understanding of international cuisine amongst students.

CO 2: To impart knowledge on the function of Larder and Gardemanger.

CO 3: Finally the course further introduces the students to the concepts of bakery & confectionery.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM351FP	Food Production – Lab IV

On successful completion of the course, students will be able to;

CO 1: It is recommended that Demonstrations be conducted in the initial stages to make the students familiar with practicals.

CO 2: Develop cooking skill in international cuisine

CO 3: Gain knowledge on different famous dishes in international cuisine

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM354FBM	Food & Beverage Management

By successful completion of the course, students will be able to;

CO 1: To impart knowledge of cost controls aspect of the F & B department and related functions**.**

CO 2: This course enables the student to gain a better understanding of the roll of Food and Beverage Management

CO 3: It also helps them to acquire finer skills and thorough understanding of the managerial principles for overall development.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM352AM	Accommodation Management

By successful completion of the course, students will be able to;

CO 1: The subject tends to establish the importance of accommodation management within the hospitality industry.

CO 2: It equips the student to acquire knowledge & skills.

CO 3: To planning & designing aspects of the front office as Sales Department.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM353BM	BAR MANAGEMENT

By successful completion of the course, students will be able to;

CO 1: This course enables the student to gain a better understanding of the role of Bar and Beverage Operation in the context.

CO 2: Overall bar operations.

CO 3: To familiarize the student with the current trends.

CO 4: The Art of Mixology like cocktails mixing methods, equipment, Accessories used.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM355CAM	AND AIR TICKETING MANAGEMENT

By successful completion of the course, students will be able to;

CO 1: To understand meaning of Role of AAI and DGCA in air transportation

CO 2: Learn about methods of Cargo transportation.

CO 3: To understand the Airline Terminology and knowing types of journeys.

CO 4: Finally learn the types of fares according to the Passengers.

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM356SM	Sales and Marketing

By successful completion of the course, students will be able to;

CO 1: The subject aims to make the students understand the importance of Sales and marketing in the Hospitality Industry.

CO 2: Concepts of the marketing, buying behaviors, market segmentation and marketing mix strategies for effective marketing of the hotel industry.

CO 3: The student will understand the concept of product, price, promotion, sales and consumers behavior

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	V	HM357TM	Tourism Management

By successful completion of the course, students will be able to;

CO 1: To inculcate a sense of importance and establish a link between the tourism industry and the hotel industry.

CO 2: To highlight the tourism industry as an alternative career path.

CO 3: Acquire knowledge on the role & functions of tourism organizations.

CO 4: Able to learn the procedure and operations of the Travel Agent and Tour operator.

Department of Political Science

Program	Semester	Course code	Course Name
BA	**I**	**POL111IPS**	**INTRODUCTION TO POLITICAL SCIENCE**

On successful completion of the course the students will be able to;

CO 1: Recall the previous knowledge about Political Science and understand the nature and scope, traditional and modern approaches of Political Science.

CO 2: Understand concepts intrinsic to the study of Political Science.

CO 3: Have solid theoretical understanding of Rights and its theories along with the basic aspects of certain political ideologies.

CO 4: Apply the knowledge to observe the field level phenomena

Program	Semester	Course code	Course Name
BA	II	POL122BOG	BASIC ORGANS OF THE GOVERNMENT

On successful completion of the course the students will be able to;

CO 1: Understand the Origin and Evolution of the concept of Constitutionalism and classification of Constitutions.

CO 2: Acquaint themselves with different theories of Origin of State.

CO 3: Understand and analyze organs and forms of Government along with a deep insight into the various agents involved in the political process.

CO 4: Apply the knowledge to analyze and evaluate the existing systems.

Program	Semester	Course code	Course Name
BA	III	POL233IGP	INDIAN GOVERNMENT AND POLITICS

On successful completion of the course the students will be able to:

CO 1: Acquire knowledge about the historical background of Constitutional development in India, appreciate philosophical foundations and salient features of the Indian Constitution.

CO 2: Analyze the relationship between State and individual in terms of Fundamental Rights and Directive Principles of State Policy.

CO 3: Understand the composition of and functioning of Union Government as well as State Government and finally

CO 4: Acquaint themselves with the judicial system of the country and its emerging trends such as judicial reforms.

Program	Semester	Course code	Course Name
BA	IV	POL244IPP	INDIAN POLITICAL PROCESS

On successful completion of the course the students will be able to:

CO 1: Know and understand the federal system of the country and some of the vital contemporary emerging issues.

CO 2: Evaluate the electoral system of the country and to identify the areas of Electoral Reforms.

CO 3: Know the constitutional base and functioning of local governments with special emphasis on 73rd and 74th Constitutional Amendment Acts.

CO 4: Understand the Dynamics of Indian politics , challenges faced and gain a sensitive comprehension of the Contributive Factors.

Program	Semester	Course code	Course Name
BA	IV	POL245WPT	WESTERN POLITICAL THOUGHT

On successful completion of the course the students will be able to:

CO 1: Understand the fundamental contours of classical , western political philosophy, basic features of medieval political thought and shift from medieval to modern era.

CO 2: Understand the Social Contract Theory and appreciate its implications on the perception of state in terms of its purposes and role. Acquaint yourself with the Liberal and Marxist philosophy and analyze some trends in western political thought.

CO 3: Critically analyze the Evolution of Western Political Thought.

Program	Semester	Course code	Course Name
BA	V	POL355IPT	INDIA POLITICAL THOUGHT

On successful completion of the course the students will be able to:

CO 1: Helping the students in acquiring knowledge in the field of Indian Political thought in the initial stage of their study.

CO 2: Apprising the students about India' contribution towards the enrichment of the field of political thought.

CO 3: Gathering knowledge regarding India's orientation towards politics and apprising the students about the growth of modern democratic political consciousness in India.

CO 4: Helping the students in their future course of study in India's political thought.

Program	Semester	Course code	Course Name
BA	V	POL356OM	OFFICE MANAGEMENT

COURSE OUTCOMES

CO 1: Understand fundamental knowledge of Office Management that can be applied to a career.

CO 2: Have knowledge on office administration and identify job competencies.

CO 3: Understand the importance of record management , allied sections and to identify the challenges in the background of ICT

CO 4: Enhance skills, strategies and techniques to compete with the global competencies in office management.

Program	Semester	Course code	Course Name
BA	V	POL367PPAA	PRINCIPLES OF PUBLIC ADMINISTRATION

This paper tries to explain Administration and Public Policy

CO 1: This course aims to familiarize students with the need to recognise Public Administration as a Discipline

CO 2: The course encourages students on the importance of development administration and its elements

CO 3: It enhances the students the Role of Governance in 21st Century

Department of Telugu

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	I	TEL 111 PTK	Pracheena Telugu Kavithyam

ఈ 3□ె విజయవంతంగా aÛ◌ంక, å□క □బR థS◌oô అభక సన ఫå‰ల½ å◌ందగల□.

CO 1: థ&9న ృR½ □&తక ◌ం □క) థ&9నత½, å&షత ½ ½Ô□ ఫ ృ .□R½ □&తక ◌oå

ఆôకå ననఆ య ్లం□å ¼Pసంస) ◌ృ%ల½, ఇ&స్లం □å %జ9ఽ åషŒలపట పÔ.థ 9□ఆ సం&ô◌ంచగల□.

CO 2: థపబంధ ్లం□å మతపÔ□% ల½, ¼P å□Pల½ థగ&□ఫ R, ృR½ □. వరన

½8్రం, □□తR, åు◌Cఫ R □దãన లం్ర థdయత§ ◌ం ¼P◌ం□ల పటR పÔ.థ 9□ఆ , □P å◌ందగల□.

CO 3: ఽక) న ¼రతం□å మత, □Ô§ క ల½, ఽక) న కå‰ &9 §□ఆ , □ట్రయత½ పÔ□% అవగాహన ుల½్గల□.

CO 4: &□ ్ 9ృలం □å కå‰å□Pల½, □లR కå‰ å&షత ½ ½Ô◌ం చగల□. ఇ&స

కåత§ ◌ం å9 å□నఆ 0%లపటR అ99□□ å◌ందగల□.

CO 5: ꠧR½ పదకా ం స§ □ప-స§ ¼pల½, □&‰కా 99□□ dంå ంô ం½Cంå□. ఛ&9న

ాఁవకా ¼షå9 pకా కర౼ం□ల½ అధకా యనం ాఁయడం □§ % ¼P □మ%ब కా 9ओ ,

రచనå

□లCవల½ థగ&ంచగల□.

CO 6: ఛంo అలం్ర పÔ.థ □నం వలన పదక పÔ□□ద సమథగంే ఉం◌ంô

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	II	TEL 122 ATS	Adhunika Telugu Sahithyam

ఈ 3□ౄ కిజయవంతంే aÛ◌ంక, å□క □बR థS◌ంô అభక సన ఫå‰ల½ å◌ందగల□.

CO 1: ఆంగ¼ష థప¼వం ్రణంౣ ేR½å వ9$ న ఆ9□క □&‰క 9ऑ , 9□ å&షత½ ½Ô□फ □.

CO 2: సమ్åన ఆ9□క □&తక థపథSయãన "వచన కåత§ ◌ం, కథ, నవల, □టకం, åమర§ " లã అవేహన å◌ం□‰□.

CO 3: ¼వకåత, అ□క దయ కå‰ల□క ల½ ౖÔ$ న .థ 9□ऑ å◌ం□‰□. అ□త§ pద ఉదక aల ॑□దక½, ఆవశక కత½ ½Ô□फ □.

CO 4: కã □&తక ◌ం □ % §□a9క ॰త□క 9ऑ å◌ం□□ .□‰□म ◌ం‰ల % §□ ్C◌ం‰, pసవ పÔ□% ల½ ౣR½ౄవడం % §□ □□म ◌ం‰9ऑ సå◌□◌ంచగల□.

CO 5: ఆ9□క ৶R½ కల§ □□&తక ం □ % §□a9క, □ంస) ృౕక, %జ్రుయ ⋅త□క 9ओ åం□‰□.

CO6: సమ్ర్ఙ్å న ఆ9□క □&తక ం పటౌ åమర§ □త§ క ãకÔ □మ%म క 9ओ dం0åం0ôం0½Cం0å□.

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	III & IV	TEL 233 PPP	Poetry, Prose and Prosody

ఈ 3□ౢ åజయవంతంౕ aÛంత్క, å□క □బR థSం0ô అభక సన ఫå‰ల½ åందగల□.

CO 1: □తృత§ ం, ‰క గం మÔ⑳ అంSత ¼pR ⅅS □½$ C□ओ å□.

CO 2: ఎంతå ౣప§ pãౢ □ల ప0□ంౖ□ తల వంచ వల□ం□ అ□ åషŒ9ओ థగ&□ఫ ౢ.

CO 3: ‰8త d8త అణౕÔన వ%ర ల హC) లౢసం ⋅త□క 9ओ åం□‰□.

CO4: వ□ఫ §□చ$, స§ తంథ‰ ల½, సaన హC) ల½ dం0åం0ôం0½ ౢన‰9S చక)

9 అవౕహన

dం0åం0ôం0½ Cం0å□.

CO 5: aతృ¼ష åద మమ9%ౢओ , థdమ9 అ□a9□ओ ఏర§ ర½C□ओ ౢ.

CO 6: మం9 నడవ8క å9□□ओ తåద ంథౢల పటౌ సaజం పటౌ Sధక ‰⑳తãన &ౕ9□ తన½ ‰½ మల½C□ओ ౢ.

CO 7: □a9క ఆÔక %జ్రుయ □ంస) ృౕక అం□ల తãన అవౕహన dం0åం0ôం0½ åద åస్ప Cం0å□.

Department of English

Program	Semester	Course code	Course Name
BA, B.Sc., B.Com., BBA &B.Voc.	I	ENG111ACS	ENGLISH PRAXIS COURSE-1- A COURSE IN COMMUNICATION AND SOFT SKILLS

On Successful completion of the course, the students will be able to:

CO 1: Use listening and communication skills effectively

CO 2: Develop awareness of appropriate communication strategies

CO 3: Identify the needs communication help us meet

CO 4: Identify common misconceptions about communication and reasons for committing perceptual errors

CO 5: Explain communication competence

CO 6: Understand the role of soft skills and communication skills in personal life

CO 7: Focus on the International Pronunciation, Word Stress and Intonation Patterns and improve their accent

Program	Semester	Course code	Course Name
B. A [AGH, AEH]	I	SDC111OS	SKILL DEVELOPMENT COURSE- OFFICE SECRETARYSHIP

On successful completion of the course students will be able to

CO 1: Understand the organizational hierarchy and outlines of functioning

CO 2: Comprehend the role of office secretaryship in a small and medium organization

CO 3: Acquire knowledge on office procedures and interpersonal skills

CO 4: Apply the skills in preparing and presenting notes, letters, statements, reports in different situations

Program	Semester	Course code	Course Name
B. A [AGH]	I	CC111ECD	CERTIFICATE COURSE – ENGLISH ENRICHMENT AND CAREER DEVELOPMENT SKILLS [EECDS]

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

CO 1: Speak intelligibly using appropriate word stress, sentence stress and intonation patterns

CO 2: Narrate events and incidents, real or imaginary in a logical sense

CO 3: Acquire knowledge on office procedures and interpersonal skills

CO 4: Adopt different strategies to convey ideas effectively according to purpose, topic and audience

CO 5: Present oral reports or summaries, make announcements clearly and confidently

CO 6: Express and argue a point of view clearly and effectively

CO 7: Concentrate on problem solving skills and building healthy relations

CO 8: Take active part in group discussions, debates, seminars and conferences

Program	Semester	Course code	Course Name
B. A [AGH]	I	ENG111HEL	HISTORY OF ENGLISH LANGUAGE AND LITERATURE

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

CO 1: Know the beauty of the coherence of Language and Literature

CO 2: Demonstrate the awareness of evolution theory of languages by varied culture

CO 3: Study the formation of new words

CO 4: Apply literary terminology for Narrative, Poetic and Dramatic Genres

CO 5: Present oral reports or summaries, make announcements clearly and confidently

CO 6: Explore literary elements

CO 7: Identify and use Figures of Speech

CO 8: Appreciate literary form and structure in shaping a text's meaning

Program	Semester	Course code	Course Name
B. A, B.SC, B.COM, BBA, B.VOC.	II	ENG122CWR	ENGLISH PRAXIS COURSE-II- A COURSE IN READING AND WRITING SKILLS

On Successful completion of the course, the students will be able to:

CO 1: Heighten their awareness of correct usage of English Grammar in writing and reading

CO 2: Improve their reading both in terms of fluency and comprehensibility

CO 3: Increase their vocabulary count by learning new words

CO 4: Strengthen their ability to use the conventions of grammar when creating paragraphs, essays and formal letters

CO 5: Review the grammatical forms of English and the use of these forms in specific communicative contexts, which include: class activities and home tasks

CO 6: Improve writing skills independently for future needs

CO 7: Build up a repository of active vocabulary

Program	Semester	Course code	Course Name
B. A [AGH]	II	SDC121JR	SKILL DEVELOPMENT COURSE- JOURNALISTIC REPORTING

On Successful completion of the course, the students will be able to:

CO 1: Understand the evolution of journalism with a focus on its development in India **CO 2:** Comprehend the role of Press in Indian Democracy and various reporting methods **CO 3:** Realize the ethical aspects of Journalism in India **CO 4:** Develop basic writing skills for Newspapers, Radio and Television

Program	Semester	Course code	Course Name
B. A, B.SC	II	SDC121BC	SKILL DEVELOPMENT COURSE- BUSINESS COMMUNICATION

On Successful completion of the course, the students will be able to:

CO 1: Comprehend the processes like receiving, filing and replying

CO 2: Acquire knowledge in preparing good business communications

CO 3: Acquaint with organizational communication requirements and presentations

CO 4: Underline the nuances of Business Communication

CO 5: Impart the correct practices of the strategies of Effective Business Writing

CO 6: Exchange information with internal and external parties

Program	Semester	Course code	Course Name
B. A [AGH]	II	CC122EPC	CERTIFICATE COURSE- ENGLISH PROFICIENCY FOR COMMUNICATION SKILLS [EPCS]

On Successful completion of the course, the students will be able to:

CO 1: Present oral reports or summaries, make announcements clearly and confidently

CO 2: Express and present with ease and clarity

CO 3: Take active part in discussions, talks and debates showing ability to express agreement and disagreement

CO 4: Frame questions to elicit the desired response and respond appropriately to questions

CO 5: Participate in spontaneous spoken discourse in familiar social situations

CO 6: Translate simple texts from a native language to a global language

Program	Semester	Course code	Course Name
B. A [AGH]	II	ENG122ILC	AN INTRODUCTION TO LITERARY CRITICISM AND LITERARY THEORY

On Successful completion of the course, the students will be able to:

CO 1: Articulate the broader ways in which literary theory applies to their own culture, global culture and their own values

CO 2: Demonstrate through written work and in-class comments their ability to apply various theories to works of literature and aspects of contemporary literature

CO 3: Demonstrate their ability to compare and synthesize the theories presented in a group discussion

CO 4: Articulate theoretical concepts orally by their class participation and formal presentations

CO 5: Locate, cite and intelligently incorporate several sources into their presentations and writings

Program	Semester	Course code	Course Name
B. A, B.SC, B.COM, BBA, B.VOC.	III	ENG233EE	ENGLISH FOR EMPOWERMENT-III

On Successful completion of the course, the students will be able to:

CO 1: Form an idea about the various stages in the development of English language

CO 2: Distinguish between the different varieties of English used all over the world

CO 3: Understand the total content and underlying meaning in the context

CO 4: Write analytically in a variety of formats, including essays, reflective writing and critical reviews of secondary sources

CO 5: Understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies

CO 6: Identify and understand phrase or sentence groups to make inferences

CO 7: Learn and apply the techniques of persuasion and negotiation

Program	Semester	Course code	Course Name
B. A [NGH]	III	ENG233BL	BRITISH LITERATURE

On Successful completion of the course, the students will be able to:

CO 1: Exposure to English Literature in all its variety from the 16th Century to the present day

CO 2: Insights into the major trends in English Literature

CO 3: Familiarize with the different genres of English Literature

CO 4: Understand and appreciate the different forms of literature

CO 5: Identify and discuss the main analytical concepts used in analysing literature

CO 6: Have an awareness of the role of analysis to inform appreciation and understanding of literature

CO 7: Display a working knowledge of literature as a literary genre

CO 8: Identify and describe distinct literary characteristics of literary forms

CO 9: Analyse literary works for their structure and meaning, using correct terminology

CO 10: Effectively communicate ideas related to the poetic works during class and group activities

Program	Semester	Course code	Course Name
B. A, B.SC, B.COM, BBA, B.VOC.	IV	ENG244EE	ENGLISH FOR EMPOWERMENT-IV [CSS-III]

On Successful completion of the course, the students will be able to:

CO 1: Think and analyse situations using critical and creative skills

CO 2: Display competence in oral and written communication

CO 3: Understand the importance and realize the opportunities available in learning

communication and soft skills

CO 4: Develop awareness of appropriate communication strategies

CO 5: Understand the concepts related to high communicative approach

CO 6: Participate in discussions, ted talks, talk shows and live shows

CO 7: Reduces the phobia of speaking in a foreign language by 'learning by doing' technique through reading newspapers, drafting news articles and listening to various accents on YouTube

CO 8: Familiarize with varieties of spoken language and interact in various situations like Group Discussions, Interviews and making Presentations

CO 9: Upgrade their personality and presentation skills through open discussions

Program	Semester	Course code	Course Name
B. A [NGH]	IV	ENG244LCC	LITERARY CROSS CURRENTS

On Successful completion of the course, the students will be able to:

CO 1: Familiarize the students with varieties of English and enable them to critically interact with literary writings from different contexts – cultural, social, political, historical, national and philosophical

CO 2: Write and appreciate different types of prose and literature

CO 3: Critically engage with different cultures and history

CO 4: Establish connections across frontiers of disciplines

CO 5: Understand the different trends of English Prose style and theme in the course of the evolution of English Prose from the 16th century to the late 20th century

CO 6: Familiar with important aspects of different genres of prose

CO 7: Acquire a wide-range vocabulary and a good understanding of the idiom of the language

CO 8: Understand the critical, theoretical and technical traditions to the production of original literary works

CO 9: Effectively communicate as writers do and present literary works of others as well as their own

CO 10: Accomplish as active readers who appreciate ambiguity, complexity and articulate their own interpretations with an awareness and curiosity for other perspectives

Program	Semester	Course code	Course Name
B. A [DGH]	V	ENG355CD	CULTURAL DIVERSITY, GENDER & HUMAN RIGHTS

On Successful completion of the course, the students will be able to:

CO 1: Develop and expand imagination and expression and reduce self-consciousness and inhibition

CO 2: Write and appreciate different types of prose and literature

CO 3: Discover and break down blocks and barriers while exploring facets of their personality that were previously subdued

CO 4: Ability to speak in the actor's vocabulary of behaviour and action

CO 5: Build strong supple bodies that are capable of playing a variety of characters with various physical demands

CO 6: Ability to distinguish the difference between the story of the script and what the story is about

Program	Semester	Course code	Course Name
B. A [DGH]	V	ENG356CIW	CONTEMPORARY INDIAN WRITINGS AND FILM STUDIES

On Successful completion of the course, the students will be able to:

CO 1: Apply literary terminology for Narrative, Poetic and Dramatic genres

CO 2: Appreciate literary form and structure in shaping text's meaning

CO 3: Interpret literary texts in English by nurturing and utilizing their ability to understand drama in a skilled, knowledgeable and ethical manner

CO 4: Become well acquainted with the rhetorical aspect of Drama, historical contexts and psycho-social aspects

CO 5: Develop a broadly interdisciplinary approach to an understanding of film and its role in society

CO 6: Be competent in developing critical responses to cinematic work based upon aesthetic or cultural values other than the entertainment model that dominates the mainstream

Program	Semester	Course code	Course Name
B. A [DGH]	VI	ENG367EL	ENGLISH FOR LANGUAGE AND LINGUISTICS

On Successful completion of the course, the students will be able to:

CO 1: Practice in phonemic transcription as an aid to develop facility in the use of a pronouncing dictionary

CO 2: Familiarize with important literary theories

CO 3: Apply principles of criticism to literary texts and undertake further reading of literary texts

CO 4: Understand the basic methods of comparative literary terms and categories relating to literary history, theory and criticism including figurative language and prosody

CO 5: Recognize and appreciate the importance of major literary genres, subgenres and periods in different traditions

CO 6: Explicate texts written in a wide variety of forms, styles, structures and modes

CO 7: Learn and appreciate cultural differences as they are mirrored in social, artistic and literary artifacts originating in different national and geographical traditions

Program	Semester	Course code	Course Name
B. A [DGH]	VI	ENG368ELT	CLUSTER PAPER: ENGLISH LANGUAGE TEACHING

On Successful completion of the course, the students will be able to:

CO 1: Develop their knowledge in relation to a selected ELT specialism

CO 2: Develop knowledge of ELT curriculum and syllabus design principles and apply this knowledge to a context and an actual learner or group of learners to whom they have access

CO 3: Develop critical awareness of syllabuses and courses and implications for the selected specialism

CO 4: Develop skills in the design and implementation of syllabuses and courses in relation to the selected specialism

CO 5: Develop critical awareness of types and methods of assessment in relation to the selected specialism **CO 6:** Apply knowledge and understanding of assessment to the production of a form of assessment for the selected specialism

CO 7: Synthesize all of the and present a coherent account of the project to a third-party readership

CO 8: Start their planning processes with a clear conception of an ultimate aim

CO 9: Arouse interest and activate relevant background knowledge

Program	Semester	Course code	Course Name
B. A [DGH]	VI	ENG368SLA	CLUSTER PAPER: SECOND LANGUAGE ACQUISITION

On Successful completion of the course, the students will be able to:

CO1: Familiarize with key concepts, theories and empirical research on child and adult Second Language Acquisition

CO2: Acquire the ability to intelligently discuss aspects of the theory and practice of language Learning based on knowledge of the scholarly research in the field

CO3: Discuss problems and challenges in current research theory

CO4: Summarize important studies and idea of research studies

CO5: Analyse second language learner data from multiple perspectives

CO6: Write coherent papers on the above topics using the conventions of Applied Linguistics

Program	Semester	Course code	Course Name
B. A [DGH]	VI	ENG368ISL	CLUSTER PAPER: INTRODUCTION TO SOCIO LINGUISTICS

On Successful completion of the course, the students will be able to:

CO1: Maintain group identity and social relationships among the speakers

CO2: Learn about a variety of topics dealing with the general theme of language in its social context

CO3: Relate between language and society

CO4: Principals' concepts of Sociolinguistics

CO5: Draw on variationist sociolinguistics, ethnography of communication, conversation analysis and critical discourse analysis

CO6: Address the educational, political and social repercussions of language use from a sociolinguistic.

CO7: Introduce the various sociolinguistic approaches and methods used for collecting and presenting data for the study of language in society

CO8: Think critically over the nature and function of language in our society and to work collaboratively on the projects for Sociolinguistics study

Department of Logistics Management

Program	Semester	Course code	Course Name
BBA	I	BBA111FL	Fundamental of Logistics

On Successful completion of the course, the students will be able to:

CO 1: Students will be able to apply the Basic knowledge of Logistics in the real-life situation

CO 2: This subject will enable them to enhance their ability and professional skills in Logistics

Program	Semester	Course code	Course Name
BBA	I	BBA111MM	Materials Management

On Successful completion of the course, the students will be able to:

CO 1: Students will be able to apply the knowledge about material management in the real-life business situation

CO 2: This subject will enable them to enhance their managerial ability and professional skills

Program	Semester	Course code	Course Name
BBA	I	BBA111WD	Warehouse and Distribution Operations

On Successful completion of the course, the students will be able to:

CO 1: Students will be able to apply the Basic knowledge of Warehousing and distribution centre operations in the real-life situation

CO 2: This subject will enable them to enhance their ability and professional skills

Skill Development Courses (SDC)

Program	Semester	Course code	Course Name
B. Sc	II	SDC122NPD	New Product Development

By Successful completion of the course, student will be

CO 1: Under the scope of R & D

CO 2: Develop new, Innovative products through knowledge galned

Program	Semester	Course code	Course Name
B. Sc	I	SDC111FIC	Food Infestation Control

By Successful completion of the course, student will be able to

CO 1: To understand the principles of food infestation

CO 2: To study the types of infestation during food storage

CO 3: To study the methods for protection food from infest-ants

Program	Semester	Course code	Course Name
B. Sc Food Tech	III	SDC233NUT	Nutraceuticals

By Successful completion of the course, student will be able to

CO 1: To understand the basic concepts or nutraceuticals and their application in day today life

CO 2: To impart the knowledge of the molecular basis of using phytochemical in prevention of chronic diseases

CO 3: Identify major type of nutraceuticals products in the market and evaluate their safety and efficacy

Department of Oriental Languages

Program	Semester	Course code	Course Name
B.A	II	SDC 121 PA	Performing Arts

On successful completion of the course, Students will be able to:

CO 1: Acquire the basic knowledge in Performing Arts

CO 2: Understand the modern stage and performance on the stage

CO 3: Comprehend and improve the skills related to performing arts on the stage

CO 4: Understand various Telugu folk arts and their significance

CO 5: Know the modes of presentation and skills pertaining to folk arts**.**

HUMAN VALUES AND PROFESSIONAL ETHICS (LSC)

Program	Semester	Course code	Course Name
B.A, B.Com & B.Sc	I & II	LSC 111 HVPE	Human Values and Professional Ethics

On successful completion of the course, Students will be able to:

CO 1: Understand the significance of value inputs in a classroom and start applying them in their Life and profession

CO 2: Distinguish between values and skills, happiness and accumulation of physical

CO 3: Facilities, the Self and the body, intention and Competence of an individual, etc.

CO 4: Understand the value of harmonious relationship based on trust and respect in their life And profession

CO 5: Understand the role of a human being in ensuring harmony in society and nature.

CO 6: Distinguish between ethical and unethical practices and start working out the strategy to Actualize a harmonious environment wherever they work.

Department of ZOOLOGY

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	I	ZOOADBNC111	Animal Diversity-Biology of Non Chordates

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Describe general taxonomic rules on animal classification

CO 2: Knowledge about important life processes and unique systems of non chordates.

CO 3: Describing the parasitic adaptations and pathogenecity in Helminthes, Vermicompost in annelida

CO 4: Describe higher invertebrate phyla using examples and importance of insects and Molluscans

CO 5: Describe Echinodermata to Hemichordata with suitable examples and larval stages in relation to the phylogeny

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	II	**ZOOADBC122(T)**	Animal Diversity-Biology of Chordates

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Describe salient features of Protochordates and unique mode of metamorphosis in Herdmania.

CO 2: Describe the general characters of Cyclostomes and .

CO 3: Aquantained with the knowledge of important general accounts like migration in fishes and aves, parental care in amphibia, flight adaptations in aves and dentition in mammals.

CO 4: Understand the significance of dentition and evolutionary significance

CO 5: Understand the evolution of important organ systems in different classes of chordates.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	III	**ZOOCGME233(T)**	Cell Biology, Genetics, Molecular Biology and Evolution

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Describe structure and functions of cell and cell organelles and to differentiate the

organisms by their cell structure.

CO 2: Understand what life is and how it functions at cellular level.

CO 3: Have knowledge of history of origin of genetics, heredity, interaction of genes, inheritance patterns existing.

CO 4: be aquaintained with various aspects of genetics involved in sex determination, human karyotyping and chromosomal aberrations

CO 5: gain knowledge about the central dogma of molecular biology and flow of genetic information from DNA to proteins.

CO 6: Understand the principles, forces and process of evolution of life and new species on the planet earth.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	IV	**ZOOPME244**	Animal Physiology, Cellular Metabolism and Embryology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Describe the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems.

CO 2: Understand the muscle contraction and nerve impulse transmission in vertebrates and knowledge of various hormones and their affects.

CO 3: Describe the structure, classification and chemistry of biomolecules and enzymes responsible for sustenance of life in living organisms

CO 4: Understand the basic metabolic activities in animals related to the catabolism and anabolism of various biomolecules

CO 5: Understands various in early embryonic development of vertebrates from gametogenesis to gastrulation and formation of primary germ layers.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	V	**ZOO**	**Immunology and Animal Biotechnology**

Course Outcomes: By successful completion of the course, students will be able to

CO 1: Have knowledge of the organs of Immune system, types of immunity,cells and organs of immunity.

CO 2: Describe immunological response as to how it is triggered (antigens) and regulated (antibodies)

CO 3: Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering.

CO 4: Get familiarity with the tools and techniques of animal biotechnology.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI B	**ZOOLSMBDA356B (T)**	Live Stock Management-I (Biology of diary animals)

Course Outcomes: By successful completion of the course, students will be able to

CO 1: Students at the successful completion of the course will be able to

CO 2: Select the suitable breeds of livestock for rearing

CO 3: Relate the anatomy of udder with letdown of milk

CO 4: Identify and manipulate the reproductive behavior of cattle

CO 5: Inspect the economics of dairy farming

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VII B	**ZOOLSMDPM357B (T)**	Live Stock Management-II (Dairy Production And Management)

Course Outcomes: By successful completion of the course, students will be able to

CO 1: Identify and suggest the suitable housing system for the dairy farming

CO 2: Understand management practices for the dairy farming

CO 3: Learn the process of milk pasteurization • Prepare cream from milk

CO 4: Apprise the various breeding techniques employed in livestock.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	II	**ZOOSDC**	Dairy Technology

Course Outcomes:
After successful completion of the course, students will be able to;

CO 1: Understand the pre-requisites for starting a Dairy farm

CO 2: Recognize different breeds of Cows & buffaloes following safety precautions.

CO 3: Prepare and give recommended feed and water for livestock

CO 4: Maintain health of livestock along with productivity

CO 5: Vaccination of cattle, nutrients requirements

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	III	LIFE SKILL COURSE	Health and Hygiene

Course Outcomes: On completion of this course, the students will be able to understand -

CO 1:what is a healthy diet and how nutritious diet is used for healthy life.

CO 2:how can we use available information to optimize our diet?

CO 3:the importance of health and hygiene in life

CO 4:the importance of nutrition for a healthy life

CO 5:different health care programs of India

CO 6:basic concept of health impact assessment as a means of assessing the policies, plans and projects using quantitative and qualitative techniques

CO 7:importance of community and personal health & hygiene measures

CO 8: Importance of food, social tenets, mental condition, physical activity on health

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	III	SKILL DEVELOPMENT COURSE	Poultry farming

Course Outcomes:

By successful completion of the course, students will be able to;

CO 1: Understand the poultry scenario in India, and various poultry systems, poultry farming.

CO 2: Have knowledge of management of broilers, growers, chicks and also about banking insurance.

CO 3:know about feed management, various diseases occur in poultry industry and their management and also about product harvesting.

Department of Food Technology

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	I	FTE111FC	Food Chemistry

COURSE OUTCOMES

To enable students

CO 1 – To know about various biochemical components of foods and their properties and application in food processing

CO 2 To study about Classification structure and functions of Carbohydrates

CO-3 To know about the importance of Biochemistry of proteins, amino acids and Enzymes

CO- 4 To know about the importance and application of enzymes in Food processing

CO- 5- To study about classification, structure and functions of important fatty acids

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	II	FTE121FBN	**Food Biochemistry and Nutrition**

COURSE OUTCOMES

To enable the students

CO 1 – To know about the emulsions, gels and foams and their application in food processing

CO 2 To Study the Importance of carbohydrate metabolism.

CO-3 To know about Fats and their Metabolism biologically important fatty acids

CO-4 To know about the Fundamental prosperities of water classification of vitamins and minerals

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	II	FTE122IPE	Industrial processing equipment

COURSE OUTCOMES

CO 1 – Students will be able to acquire the knowledge about different terms and measurements used in a food industry and the other operations involved in processing.

CO 2 – The students will acquire knowledge about the different drying techniques involved and extraction procedures involved during processing of different foods.

CO-3- The students will be able to acquire the knowledge about filtration techniques involved in the processing industry and their limitations

CO- 4- The students will be able to acquire the knowledge about working of equipment and how to maintain the equipment hygiene and sanitizing.

CO- 5- The students will be able to acquire the knowledge about refrigeration procedures involved in a food industry.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	II	FTE123FAT	Food Additives and Toxicology

COURSE OUTCOMES

CO-1 - Students will be able to acquire the knowledge about substances added to food to maintain or improve its safety

CO-2 - Students will be able to acquire the knowledge about food additives need to be checked for potential harmful effects on human health before they can be used.

C0- 3 - Students will be able to acquire the knowledge about assessing the presence of toxic compounds in food and their relation to adverse effects.

CO-4 - Students will be able to acquire the knowledge about harmful actions of chemical substances, to study their mechanisms of action.

CO- 5- Students will be able to acquire the knowledge about the harmful toxicants which are naturally

added and artificially added in different foods.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	III	FTE234PHT	Post Harvest Technology of field crops

COURSE OUTCOMES

To enable the students

CO-1 Knowledge about food spoilage agents and prevention

CO-2 Understand the safety control measures in handling foods from harvest to consumption agencies of control.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	III	FTE235TP	Technology of milk and milk products

COURSE OUTCOMES

Enable the students

CO-1 To know the need for and importance of dairy industry

CO-2 To know the compositional and technological aspects of milk and Processed milk products

CO-3 To develop young entrepreneurs for self-employment through dairy technology and associated activities

CO-4 to know the utilization of by-products of dairy industry

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technolgy)	IV	FTE245TF	Technology of oils and fats

COURSE OUTCOMES

CO-1- Students will be able to acquire the knowledge about oils, fats, and their derivatives as fundamental ingredients of many food products.

CO- 2- To provide students with the knowledge necessary for a conscious use of oils and fats in food formulations

CO-3 - Students will be able to acquire the knowledge about optimization of production processes of the foods containing fats and oils.

CO- 4- Students will be able to acquire the knowledge about the best oils and fats for food formulations, taking into account their chemical and physical characteristics, technological properties.

CO- 5 – Students will be able to acquire the knowledge about the byproducts that are derived from the oil refining.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	IV	FTE246TC	Technology of Confectionery

COURSE OUTCOMES

CO-1- Students will be able to acquire the knowledge about the role of ingredients in confectionaries.

CO-2- Students will be able to acquire the knowledge about the sugar processing and treatment.

CO-3 -Students will be able to acquire the knowledge about the technology involved in chocolate preparation.

CO-4 - Students will be able to acquire the knowledge about the technology involved in confectionary and miscellaneous production.

CO-5 - Students will be able to acquire the knowledge about the manufacturing of miscellaneous products.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	V	SKILL DEVELOPMENT COURSE	Technology of Meat, Fish, poultry and its products

COURSE OUTCOMES

CO I- students will be able to acquire the knowledge about the structure and nutritive value of the met.

CO-2 – students will be able to acquire the knowledge about slaughtering techniques of poultry and meat.

CO-3 – Students will be Able to acquire the knowledge about the processing of meat

CO-4- Students will be able to acquire the knowledge about different processing techniques of poultry and fish

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Food Technology)	V	FTE358BST	Baking science and Technology

COURSE OUTCOMES

To enable the Enable the students

CO-1 To understand the science and technology of baking

CO-2 To the role of different ingredients in baking

CO-3 To develop skills in planning and maintenance of a baking institution

CO-4 To gain knowledge about the bread, formulation & ingredients

CO-5 To learn the preparation of frozen dough products & application of starches in bakery industry

Department of Biotechnology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Students will be able to acquire, articulate, retain, and apply knowledge relevant to cell and various cell organelles.

CO 2: The students will gain thorough knowledge about the structure of gene, chromosome organization, and gene transfer methods.

CO 3: The students will be able to know the basic and classical genetics concepts, thereby enhancing their knowledge about how genes segregate and patterns followed by them during inheritance.

CO 4: This teaches about various phases in the cell cycle and division. It also gives insights into how chromosome number varies in each phase and by the end of the cell division.

CO 5: Students shall be equipped with basic knowledge of microbiology, sterilization techniques regularly followed in the laboratory.

CO 6: Learn skills applicable to research or clinical methods, including accurately reporting observation and analysis.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Biotechnology)	II	**BTY122PMB**	Principles and Methods in Biological Separation Techniques

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: The course delves into the principles and working methods of various centrifuges, empowering

students to acquire the knowledge necessary for the effective separation of diverse biological samples.

CO 2: This unit's primary strength lies in imparting knowledge on the fundamental principles of instrumentation and the applications of chromatography for evaluating and measuring biological systems.

CO 3: Detailed discussions on electrophoretic techniques, which have revolutionized the fields of medicine, genetics, and drug delivery strategies, are a key focus of this course.

CO 4: The course elucidates the applications of radioactivity in evaluating various biological systems and covers the principles and laws of spectroscopy.

CO 5: Students gain basic knowledge of widely used terminology in Biostatistics, along with an understanding of common research tools, including their scope, advantages, and disadvantages.

CO 6: The course emphasizes skill and application-based research or clinical methods, including the accurate reporting of observations and the thorough analysis of results.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Biotechnology)	III	**BTY233MOB**	Molecular Biology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Students will be able to acquire and articulate knowledge relevant to genome structure, and they will study the evidences regarding DNA proving as genetic material.

CO 2: The students will gain thorough knowledge about the enzymes involved in DNA replication and its mechanism.

CO 3: The students will be able to know the role of enzymes involved in Transcription process, general characteristics, and its mechanism.

CO 4: Acquire the features and properties of genetic code and how the translation process begins.

CO 5: Understand the concepts needed to explain gene regulation and expression. With this explanation, they will gain knowledge regarding the operon concepts.

CO 6: Learn molecular biology skills applicable to molecular biology research or clinical methods, including accurately reporting observation and analysis.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Biotechnology)	III	BTY234IMT	Immuno Technology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understanding the overview of the immune system and how it acts in the body.

CO 2: Understanding the concepts and structure, types, and functions of antigens and antibodies. Factors affecting these structures will also be learned.
CO 3: The student will be able to gain knowledge of all the mechanisms involved in antigen-antibody interactions.
CO 4: To make them understand the MHC concept, reactions, and antigen presentation concept, immune responses to infectious organisms and tumors, allergies, and immunodeficiencies.
CO 5: To make them communicate efficiently all the basic concepts regarding immunological responses, mechanisms of this response, its regulation, and the genetic basis.
CO 6: The techniques involved in diagnosis, treatment, and their applications are taught.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Biotechnology)	IV	**BTY245rDT**	rDNA technology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: This course aims to facilitate students in acquiring knowledge about various types of enzymes involved in genetic engineering and their applications in recombinant technology.
CO 2: Students will develop a thorough understanding of various cloning vehicles, their unique features, and the necessity for additional gene elements in them. The course covers topics such as genomic library construction, maintenance, and a discussion of their advantages and disadvantages.
CO 3: The focus of this course is on Polymerase Chain Reaction (PCR), including its main principles, amplification strategies, and applications, with a special emphasis on its relevance during situations like the COVID-19 pandemic. Additionally, the course explores the application of PCR in sequencing amplified products and gene transfer techniques for permanent use.
CO 4: Students will gain extensive knowledge of various gene transfer mechanisms based on different cell sources, along with a comprehensive understanding of their unique mechanisms, advantages, and disadvantages.
CO 5: The course delves into advanced application techniques such as Restriction Fragment Length Polymorphism (RFLP), Random Amplified Polymorphic DNA (RAPD), and various other important applications of recombinant DNA technology.
CO 6: Emphasis is placed on skill-based applications in research or clinical methods, ensuring students are equipped for accurate analysis and reporting of study observations.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Biotechnology)	VI	**BTY366PABT**	Plant & Animal Biotechnology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: The course is designed to impart fundamental knowledge to students in plant biotechnology, including proficiency in sterile techniques, media preparation, and plant tissue culture techniques.
CO 2: Students will gain knowledge in micropropagation, understanding various steps involved, production of haploid plants, and exploring their applications. The curriculum covers plant regeneration, methods of organogenesis, cryopreservation, and secondary metabolites.
CO 3: This section focuses on various types of animal cell culture media, emphasizing the importance of serum, and delves into the physicochemical properties of media. Key concepts include the establishment and maintenance of cell lines, along with an exploration of commonly used cell lines.
CO 4: The unit emphasizes gene therapy applications and explores various animal models used in biological research. Gene recombination methods involved in the production of insulin and somatostatin are taught.
CO 5: The course places a spotlight on Intellectual Property Rights (IPR) and patents, addressing the right of protection for inventions.
CO 6: Students will acquire proficiency in handling basic aseptic techniques essential in the fields of plant and animal biotechnology.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (Biotechnology)	VI	**BTY367EIBT**	Environmental And Industrial Biotechnology

Course Outcomes: By successful completion of the course, students will be able to;
CO 1: Acquiring and articulating knowledge relevant to various types of pollution, key compounds causing pollution, their measurement techniques, and control measures using biotechnological processes.

CO 2: Gaining knowledge on various bio processes in the degradation and remediation of pollutants, wastes, and understanding the role of biotechnology in these processes.
CO 3: Emphasizing concepts of biofuels, their importance in addressing current challenges, the significance of biogas, and the concepts of phytoremediation.
CO 4: Understanding the basic design of a bioreactor, knowledge on downstream processing, and discussing various processes involved. Highlighting the industrial production of vaccines and insulin based on current technological developments.
CO 5: Recognizing the need for bioinformatics and its applications. Developing knowledge in searching for DNA/protein sequences, retrieving them, and aligning them for better analysis.

CO 6: Exploring various measurement techniques of pollutants, including dry lab techniques such as searching, retrieving, and aligning them.

M.C.A - Master of Computer Applications

Program Objectives

- Ability to analyze real world problems, develop feasible and environmentally acceptable solutions to achieve peer recognition as an individual or in a team.
- Identify the opportunity to evolve as an entrepreneur and pursue the same for the benefit of individual and society.

Program Outcomes

PO 1: Work with sustainable computing in a multi-disciplinary atmosphere challenging the trends and technologies engaging in lifelong learning.

PO 2: Utilize the computing knowledge efficiently in projects with concern for societal, environmental and cultural aspects.

PO 3: Function Competently as an individual and as a leader in multidisciplinary projects.

PO 4: Create and design innovative methodologies to solve complex problems for the betterment of the society.

PO 5: Apply the inherent skills with absolute focus to function as a successful entrepreneur.

PO 6: Apply the knowledge of mathematics and computing fundamentals to various real life applications for any given requirement.

PO 7: Design and develop applications to analyze and solve all computer science related problems.

PO 8: Design applications for any desired needs with appropriate considerations for any specific need on societal and environmental aspects.

PO 9: Analyze and review literatures to invoke the research skills to design, interpret and make inferences from the resulting data.

PO 10: Integrate and apply efficiently the contemporary IT tools to all computer applications.

MBA - Master of Business Administration

Master of Business Administration is a two year professional post graduate programme which provides enormous knowledge in various disciplines of management such as Financial Management, Human Resource Management and Marketing Management. Students can choose any management and administrative profession in various sectors such as information technology, banking and insurance, stock broking, mutual funds, hospitality, tourism, Pharmaceutical, FMCG, Retail, any field from manufacturing sector and any public sector undertaking entity. Students can opt and pursue their Doctorate in Philosophy (Ph.D) in subareas of management.

Program Outcomes

A Student of Master of Business Administration programme will demonstrate:

PO 1: Knowledge: Understanding the fundamental concepts of management such as functions of management, levels and skills of management, theories of management, Leadership and motivation and their significance in professional life.

PO 2: Awareness: Understanding the legislative and regulatory framework available for the smooth functioning of business in a lawful manner.

PO 3: Application: Recognize professional prospects outline and execute innovation in the workplace

PO 4: Communication skills: Improving proficiency in business correspondence and able to communicate with different stakeholders

PO 5: Intrapersonal skills: Ability to improve self-confidence, emotional balance, self esteem and engage in self-learning

PO 6: Analytical skills: Ability to develop analytical thinking and thought process to estimate and analyze different business scenarios and various tends in the economy to make use of various business opportunities

PO 7: Problem solving skills: Enhance competencies to adopt and face any situation in the business, formulate strategies to solve the complexities and managerial problems faced by the business enterprises

PO 8: Managerial skills: Ability to improve Conceptual, human and technical skills to perform the job in an efficient manner

PO 9: Professional skills: To improve the ability to handle, manage and learn the tactics in the management profession mainly focusing on improving leadership skills

PO 10: Ethical values: Capability to realise, examine and relate international, economic, legal, and ethical aspects of business. Execute, implement and follow the organizational ethics

Department of Public Policy

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.A. Public policy	I	NBAPPA 104	Introduction to public Policy

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the meaning, scope, need, and importance of public policy, demonstrating a comprehensive knowledge of the fundamental concepts in the field.

CO 2: Evaluate the contributions and perspectives of prominent scholars in the field of policy sciences, such as David Easton, Harold Lasswell, and Yehezkel Dror, and critically analyze their theories to comprehend the evolution of policy science over time.

CO 3: Analyze the distinct roles played by the legislature, executive, bureaucracy, and judiciary in policy formulation, implementation, and evaluation processes within the Indian context.

CO 4: Develop the ability to critically evaluate public policies, considering their effectiveness, efficiency, and impact on society, and apply appropriate evaluation methods.

CO 5: Apply theoretical knowledge and analytical skills to real-world policy issues, demonstrating the ability to formulate, implement, and evaluate policies in diverse contexts.

CO 6: Understand the significance of political parties in shaping public policy and analyze their impact on the decision-making process.

CO 7: Understand the fundamental concepts and theories related to public policy, including the various models and approaches used in policy analysis.

CO 8: Analyze the impact of industrial policy on administrative structures in India, evaluating its implications on economic growth, employment generation, and administrative efficiency.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.A. Public policy	II	INBAPPA204	Public policy–organs of state

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand Indian Parliament's structure, including Lok Sabha, Rajya Sabha, Budget, and Parliamentary Committees, enhancing knowledge of legislative processes.

CO 2: Gain insights into the Indian Judiciary system, including court hierarchy, Supreme Court jurisdiction, and landmark judgments, and analyze differences between Union and State Judiciary, along with the Uniform Civil Code concept.

CO 3: Acquire knowledge about State Government, roles of Governor, Chief Minister, legislative

bodies like Vidhan Sabha, Vidhan Parishad, legislative procedures, and administration of Scheduled Areas, enhancing understanding of state-level governance.

CO 4: Explore Local Self-Government history, focusing on Panchayati Raj, 73rd Amendment Act, PESA Act, and rights of Scheduled Tribes. Analyze Urban Local Government, 74th Amendment Act, and cooperatives, understanding grassroots democracy and community participation.

CO 5: Compare Union, State, and Local Governments, analyzing their powers, functions, and interrelationships. Develop a comprehensive understanding of India's political system, enabling critical evaluation of policies and governance mechanisms

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.A. Public policy	III	INBAPPA 104	Introduction to political system

CO 1: Understand the executive branch of government, roles, and powers of key officials at union and state levels.

CO 2: Analyze Indian legislative framework, including Lok Sabha, Rajya Sabha functions, parliamentary proceedings, and budgetary process.

CO 3: Examine State Legislature organization, roles of presiding officers, legislative processes, and state-level legislation dynamics.

CO 4: Gain knowledge of India's judicial system, focusing on Supreme Court, High Courts, judicial review, and importance of an independent judiciary.

CO 5: Develop critical understanding of Indian legal system, roles of subordinate courts, judge appointment, powers, and hierarchical structure.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.A. Public policy	IV	INBAPPA401	Public policy and Good Governance

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the various types of public policies and analyze their significance in governance.

CO 2: Examine the nature of public policy in India and critically evaluate the achievements and shortcomings of planned policymaking, along with the challenges in policy implementation.

CO 3: Analyze and evaluate specific government schemes such as Beti Bachao Beti Padhao, Mahatma Gandhi National Rural Employment Guarantee Act, and Pradhan Mantri Awas Yojana, understanding their objectives, implementation, and impact

CO 4: Comprehend the dimensions of development and identify the challenges associated with the

development process in the context of India

CO 5: Recognize the role of social capital organizations in society, classify them according to their functions, and assess the implications of national policies related to the voluntary sector and non-governmental organizations

DEPARTMENT OF AGRI STORAGE & SUPPLY CHAIN MANAGEMENT

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS111AE	Agricultural Economics

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand fundamental economic concepts, including micro and macroeconomics, agricultural economics, and factors influencing agricultural development.

CO 2: Analyze demand and supply principles, including elasticity, utility theory, and consumer equilibrium.

CO 3: Examine the evolution, functions of money, inflation, deflation, and banking roles in the economy.

CO 4: Explore agricultural and public finance, taxation, revenue, expenditure, and economic systems.

CO 5: Evaluate emerging trends in production, processing, marketing, exports, and policy controls in agro-business enterprises.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS111IAL	Introduction to Agri Logistics

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Grasp the core concepts of agri logistics and supply chain management, recognizing their importance in diverse agricultural settings.

CO 2: Apply logistics principles to address challenges in procurement, processing, packaging, storage, transportation, and distribution of agricultural products.

CO 3: Analyze handling and transport systems, including air, sea, road, and rail logistics, along with related terminology and regulations .

CO 4: Explore the role of IT in agri logistics, especially in processing, marketing, and exports, while understanding relevant policies and regulations.

CO 5: Evaluate outsourcing in supply chain management, including the roles of 3PLs and 4PLs, reverse logistics, and market-driven activities, and suggest strategies for effective agri logistics management.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS11IPHM	Post – Harvest Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Grasp fundamental post-harvest management concepts, including horticulture geography and pre-harvest operations.

CO 2: Apply effective post-harvest handling practices, maturity indices, and postharvest treatments.

CO 3: Understand post-harvest physiological changes, ethylene's role, and packaging methods.

CO 4: Adhere to pack house hygiene, safety standards, and quality protocols for various fruits and vegetables.

CO 5: Implement best practices for flowers, tubular crops, and grain crops post-harvest management

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PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	**BMS111POM**	Principles of management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand foundational management concepts, contemporary challenges, and managerial roles.

CO 2: Master planning, decision-making processes, creativity, and strategic planning.

CO 3: Gain insights into directing, motivation theories, leadership styles, and staffing processes.

CO 4: Grasp organizational design, structure, departmentation, and principles of delegation.

CO 5: Analyze ethics, corporate social responsibility, and environmental factors affecting businesses.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS11IWAP	Warehousing for Agricultural Produce

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand warehousing concepts, challenges, and the role of technology in post-harvest management of agricultural produce.

CO 2: Develop and implement effective Standard Operating Procedures for warehouse operations,

covering goods receipt, storage, quality control, risk mitigation, and delivery processes.
CO 3: Proficiently manage warehouse information, including capturing key data, maintaining records, and integrating IT for efficient Warehouse Management Systems.

CO 4: Comprehend the conceptual framework of Warehouse Receipt Management, including negotiability, components, and legal aspects, especially related to Electronic Negotiable Warehouse Receipts.
CO 5: Identify opportunities and challenges in the warehousing sector, recognizing required skill sets, exploring business options, and understanding employment prospects while addressing key sector challenges in India.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121OB	Organisational Behaviour

Course Outcomes: By successful completion of the course, students will be able to;
CO 1: Understand Organizational Behaviour fundamentals, including nature, structure, and behaviorist frameworks, and grasp individual behaviors and personality development concepts.
CO 2: Gain insights into Perception, Attitudes, and Job Satisfaction, understanding their nature, sources, and consequences, as well as job stress causes and effects.
CO 3: Develop knowledge of Organizational Conflicts, Group Dynamics, Committee Organizations, and Informal Communication Systems within groups.
CO 4: Acquire expertise in Organizational Change and Development, including strategies to overcome resistance, change processes, and various Organizational Development interventions.
CO 5: Explore Leadership Theories, Types, and Styles, understanding Trait theory, Michigan studies, Fiedler's contingency model, and modern leadership approaches.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121TAC	Trading in Agri Commodities

Course Outcomes: By successful completion of the course, students will be able to;
CO 1: Understand agricultural marketing concepts, market structure, and demand-supply dynamics. Calculate producer’s surplus of agri-commodities.
CO 2: Evaluate pricing strategies, market promotion techniques, and assess advantages/disadvantages.

CO 3: Analyze market functionaries, channels, integration, costs, and propose methods to reduce marketing expenses.

CO 4: Study agricultural prices, policies, marketable surplus, and historical price trends of commodities.

CO 5: Grasp international trade theories, GATT, WTO implications, and analyze IPR and GST impact on agricultural trade.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121CA	Cost accounting

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Student will be able to apply costing techniques in different types of industries.

CO 2: Student will be able to apply costing techniques in business decisions.

CO 3: Understand and use the basic concepts of costing and costing systems in their professional life.

CO 4: Integrate cost accounting with financial accounting for management decision making.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121QAA	Quality Control, Assurance & Audit

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: To understand basic concept of quality and systems of quality management.

CO 2: To be able to get ready for implementing a quality management system in the organization.

CO 3: To enable the students in getting ready for a quality audit of the supply chain system.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121DCF	Derivatives with Commodity Futures

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand fundamental concepts of commodity derivatives, including products, participants, and market functions.

CO 2: Apply various commodity futures instruments for trading, analyzing payoff structures and comparing futures and options use.

CO 3: Demonstrate knowledge of futures trading systems, including trading cycles, order types, margins, charges, and risk management.

CO 4: Analyze the regulatory framework governing commodity derivatives, including rules,

participants, and dispute resolution procedures.

CO 5: Evaluate trading patterns, market efficiency, and compile information on recognized stock exchanges, commodities traded, and market governing bodies in India.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231CHT	Cold Chain Technology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the fundamental concepts of Cold Chain and its importance in the preservation of agricultural produce.

CO 2: Demonstrate knowledge of Cold Chain infrastructure components, including refrigeration systems, insulation techniques, and distribution centers.

CO 3: Implement effective monitoring systems for temperature and humidity in Cold Chain logistics, utilizing automated and remote monitoring technologies.

CO 4: Apply principles of Reefer Logistics in transporting agricultural produce, including reefer container operations, handling chilled and frozen cargos, and ensuring good transportation practices.

CO 5: Practice good Cold Chain management, including SOPs for specific fruits and vegetables commodities, traceability, and adherence to quality standards for domestic and export markets.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231ES	ENVIRONMENTAL STUDIES

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the components of ecosystems, ecological structures, energy flow, and biogeochemical cycles (Unit I: Ecology).

CO 2: Analyze different types of pollution, their sources, standards, and adverse effects (Unit II: Pollution).

CO 3: Demonstrate knowledge of solid waste management, including classification, collection, disposal, and resource recovery methods (Unit III: Solid Waste Management).

CO 4: Explore non-conventional energy sources and assess their potential, especially in the context of India (Unit IV: Non-Conventional Energy Sources).

CO 5: Comprehend social issues related to environmental conservation, sustainable development, public awareness, and key environmental legislations in India (Unit V: Social Issues and EIA).

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231HFP	Handling of Fresh Produces

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand fresh produce market preparation and categorization.

CO 2: Apply value addition techniques such as sanitation, canning, and dehydration.

CO 3: Implement tropical fruits ripening and grading techniques.

CO 4: Proficiently execute fresh cut packing methods, including retail and special techniques.

CO 5: Analyze challenges and opportunities in E-commerce delivery for fresh produce.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231HFP	Mechanization In Agri Logistics

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand agricultural mechanisation principles, transportation methods, and benchmarking processes.

CO 2: Apply knowledge of product handling methods, automated systems, and traceability options in agri-logistics.

CO 3: Demonstrate proficiency in automated storage management techniques, including palletisation, conveyors, silos, and AS&RS.

CO 4: Utilize automation technologies for tracking and traceability, such as GPS, RFID, AGVS, RTWCS, CIW, and RFDT.

CO 5: Grasp the basics of block chain technology and its applications in sustainable agriculture, transparency, and trust in agri-food systems.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231PM	Pest Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand pest categorization, significance in agriculture, and relevant laws and regulations.

CO 2: Identify and assess major storage pests, recognize signs of infestation, and detect hidden infestation sources.

CO 3: Learn insect pest control methods, including prophylactic treatments, insecticide application, and fumigation techniques.

CO 4: Grasp methodologies for non-insect pest management, including fungi, bacteria, rodents, and birds, utilizing various control measures.

CO 5: Comprehend Integrated Pest Management (IPM) principles, including sanitation, pest monitoring, preventive methods, and judicious curative measures, applying strategies in supply chain management.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231RAM	Risk Assessment and Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand fundamental concepts of risk in supply chain management, including peril & hazard, risk categories, and risk prioritization.

CO 2: Develop a risk management framework with strategies for identifying, mitigating, and auditing potential risks, and ensuring health and safety in warehousing.

CO 3: Recognize insurable risks, understand insurance functions, and effectively manage insurance policies for agricultural produce.

CO 4: Learn techniques for preventing and managing major perils like fire, flood, and ensuring security in agricultural storage and transport.

CO 5: Comprehend regulatory compliance processes, identify non-insurable risks, and understand indemnification for risk mitigation in agricultural supply chains.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS24IMM	Marketing Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Discuss the importance of macro and micro environment in the company's marketing function.

CO 2: Differentiate the consumer and institutional buyer behaviour.

CO 3: Define the target segments for the product

CO 4: Justify the importance of products, branding, and new product development.

CO 5: Understand the importance of Channel of distribution

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241AP	Agri-Preneurship

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: To get an understanding of the conceptual framework of entrepreneurship development in India.

CO 2: To learn about various processes involved in the development of an agri preneurship venture.

CO 3: To know about various potential options available towards setting up an agri-business venture.

CO 4: To learn about various challenges in the way of agri preneurship and strategies to overcome them.

CO 5: To know as to how to avail various benefits available under governmental support programmes for agri-business development.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241AEI	Agricultural Exports & Imports

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the legal framework in agriculture, focusing on post-harvest management challenges and strategies for higher returns to farmers.

CO 2: Analyze the importance of quality standards in agricultural produce, including relevant acts and enforcement mechanisms.

CO 3: Evaluate legal aspects related to transportation logistics during post-harvest, including relevant acts governing transportation of agricultural produce.

CO 4: Assess the legal framework for storage, preservation, and warehousing of agricultural produce, including acts governing these aspects.

CO 5: Understand the legal aspects of marketing agricultural produce, including relevant acts, taxation, and trade regulations.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241PT	Packaging Technology

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the history, importance, and functions of food and agri-products packaging,

including material properties, design, and testing.

CO 2: Analyze wood, paper, glass, and metal packaging materials, including their structure, types, and uses, and compare wooden containers with CFB boxes.

CO 3: Apply packaging rules, labeling techniques, and technology usage for packaging fruits, vegetables, and their products.

CO 4: Comprehend aseptic packaging, active food packaging, edible films, coatings, and intelligent/smart/active packaging systems, and their food applications.

CO 5: Implement various packaging techniques, including knowledge of containers, primary and secondary packaging, and packaging machines, for effective food and agri-products packaging.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241DVCM	Dairy Value Chain & Marketing

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the historical development and current trends in dairy production globally and in India.

CO 2: Apply techniques for ensuring clean milk production and procurement, and comprehend milk contamination sources.

CO 3: Demonstrate knowledge of dairy operations, milk processing, quality assurance, and various milk products.

CO 4: Analyze milk marketing structures, distribution channels, and pricing factors, considering market segmentation.

CO 5: Evaluate the milk value chain, government policies, international regulations, and technology impact on dairy marketing.

DEPARTMENT OF e-COMMERCE OPERATIONS

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS111POM	Principles of Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the nature, definition, characteristics, and scope of management.

CO 2: Apply the principles of planning, including objectives, policy, procedures, forecasting, and

decision making.

CO 3: Demonstrate knowledge of directing principles, motivation theories, leadership styles, and staffing techniques.

CO 4: Understand organization design, structure, departmentalization, span of control, authority, responsibility, and delegation.

CO 5: Analyze contemporary issues, challenges in management, and the impact of ethics and social responsibility.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS111IM	Principles of Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the basics of inventory management, its importance, and its role in e-commerce supply chains.

CO 2: Compare various inventory management techniques, including economic order quantity, safety stock, and demand forecasting.

CO 3: Explain key inventory management metrics, such as inventory turnover, safety stock, and carrying cost.

CO 4: Evaluate inventory management software, its features, and the selection process for warehousing management systems.

CO 5: Analyze the latest trends in inventory management, including predictive picking, omni channel solutions, and advanced sales forecasting.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS111AFS	Analysing Financial Statements

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Apply fundamental accounting concepts and prepare financial statements for a sole proprietorship business.

CO 2: Record accounting transactions related to dissolution, amalgamation, and sale of partnership firms.

CO 3: Understand business income concepts, revenue recognition, expenses, and methods of computing depreciation.

CO 4: Prepare trading account, profit & loss account, and balance sheet for a sole proprietor.

CO 5: Explain the concepts of operating and financial lease, and understand the relationship between metrics and customer service.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS111BO	Business Organization

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand fundamental concepts of business trade, industry, commerce, and trade classifications.

CO 2: Describe the characteristics, advantages, and disadvantages of sole proprietorship and joint Hindu family businesses.

CO 3: Explain the meaning, characteristics, kinds of partners, registration of partnership, and rights and obligations of partners in a partnership business.

CO 4: Analyze the meaning, characteristics, advantages, and differences between private and public companies.

CO 5: Design corporate organizational structures and understand the distribution of powers and responsibilities within a company.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	I	BMS111IEO	Introduction to E-Commerce Operations

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the basics of e-commerce logistics and its changing dynamics.

CO 2: Analyze different types of e-commerce logistics models, including B2C, B2B, C2C, G2C, G2B, and G2G.

CO 3: Examine the impact of technology on e-commerce logistics, including AI, GPS tracking, and drone delivery.

CO 4: Explore the future prospects of e-commerce logistics in India, including upcoming regulations and technologies.

CO 5: Understand the growth projections for e-commerce in India and analyze the technologies under development for e-commerce logistics.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121MM	Marketing Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Discuss the importance of macro and microenvironment in the company's marketing function.

CO 2: Define the target segments for the product and understand factors influencing consumer buying behavior.

CO 3: Justify the importance of products, branding, and new product development.

CO 4: Understand the importance of Channel of distribution and analyze elements of promotion mix. (

CO 5: Discuss social responsibility, ethical issues in marketing, global marketing, and marketing in the 21st Century.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121WM	Warehouse Management

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Explain the types of warehouses, functions, and layout-related functions.

CO 2: Understand various stages involved in receiving and dispatching goods, including quality parameters and quality checks.

CO 3: Describe various warehouse activities such as sorting, loading, unloading, picking, packing, and dispatch.

CO 4: Manage warehouse utilization, handling of hazardous cargo, and use of Material Handling Equipment.

CO 5: Implement safety rules and procedures in a warehouse and understand the principles of Materials Handling system.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121MH	Material Handling

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the concepts of Materials Management, Logistics, and Supply Chain Management.

CO 2: Describe various types of Material Handling Equipment and their applications.

CO 3: Explain Material Requirement Planning (MRP), forecasting, and material flow in MRP.

CO 4: Implement quality control measures, inventory control techniques, and value engineering concepts.

CO 5: Apply health and safety measures in Materials Handling systems and understand the principles of Physical distribution logistics.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121FMO	First Mile Operations

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the importance and flow of First Mile operations in e-commerce logistics.

CO 2: Describe the shipment pickup process, including coordination, documentation, and safety measures.

CO 3: Explain various shipment processing operations, layout of Processing Centres, and roles of Processing Centre staff.

CO 4: Analyze First Mile analytics, metrics, and tools for monitoring and improving operations.

CO 5: Address key challenges in First Mile operations and apply communication techniques to resolve exceptions.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121BE	Business Environment

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the framework of the business environment, including its internal and external elements.

CO 2: Analyze the economic, political, legal, socio-cultural, technological, and international aspects of the business environment.

CO 3: Examine how different factors and trends in the external environment impact a proposed business venture.

CO 4: Conduct a business analysis of the local and national environment considering various environmental elements.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	II	BMS121ME	Managerial Economics

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Distinguish between micro and macroeconomics and understand the concepts of utility and substitution.

CO 2: Explain demand, supply, market equilibrium, production concepts, and cost functions.

CO 3: Understand market structures, pricing strategies, and national income measurement.

CO 4: Analyze trade cycles, causes, and methods to control trade cycles.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231ELO	E-Commerce Logistics Operations

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the basics of logistics in E-Commerce and its role in the supply chain.

CO 2: Comprehend the process of capacity management and its application in inbound and outbound logistics.

CO 3: Explain the strategies used in logistics planning and execution, and understand the systems used in E-Commerce logistics.

CO 4: Understand the concepts of logistics and systems integration, and the interlink between logistics and operations.

CO 5: Evaluate the integration of logistics into operations, assess logistics operations, and understand partner termination processes.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231LMO	Last Mile Operations

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the basics of last mile logistics in E-Commerce and its challenges.

CO 2: Describe the last mile processes, including forward and reverse logistics stages.

CO 3: Analyze various metrics and customer service processes involved in last mile logistics.

CO 4: Explain the prospects and innovations in last mile logistics, including technology trends.

CO 5: Understand the value creation aspects through network design, process improvement, and strategic decisions in reverse logistics.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231MIS	MIS for E-Commerce

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the concepts of Management Information Systems and their historical context.

CO 2: Explore global E-business processes and comprehend electronic commerce concepts.

CO 3: Understand the relationship between decision making and information systems, and analyze systems for planned organizational change.

CO 4: Grasp the concepts of business intelligence, strategic, tactical, and operational decisions in MIS.

CO 5: Evaluate the role of MIS in managing global systems and understand system analysis and design.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231RLE	Reverse Logistics for E-Commerce

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the importance and challenges of reverse logistics in E-Commerce.

CO 2: Describe the stages and tools in reverse logistics processes.

CO 3: Analyze the shipping and information systems in reverse logistics, and assess the innovations and market prospects.

CO 4: Understand the creation of value through network design, strategic decisions, and maintaining partnerships in reverse logistics.

CO 5: Explore the impact of new technology trends and digital transformation on reverse logistics.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	III	BMS231TFE	Transportation for E-Commerce

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the importance and functions of transportation in the supply chain.

CO 2: Comprehend various transportation management techniques and modalities.

CO 3: Understand transportation management systems and their integration with supply chain functions.

CO 4: Analyze the socio-economic factors affecting transportation and explore the future trends in transportation.

CO 5: Evaluate the benefits and risks of different transportation equipment and comprehend the upcoming tools and techniques in transportation.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241HLO	Hub and Line Operations

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the concepts of Hub & Line Operations in E-commerce and the importance of Line Haul logistics.

CO 2: Analyze inbound and outbound logistics in the context of E-commerce and comprehend the layout of Processing Centers.

CO 3: Explain the various machines and equipment used in hub operations and assess prospects in Line Haul Logistics.

CO 4: Evaluate the relationship between logistics and fulfillment services and explore innovations and technology trends in Line Haul Logistics.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241OIE	Outsourcing in Ecommerce

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the fundamentals of Outsourcing and its implementation in E-commerce businesses.

CO 2: Analyze E-commerce outsourcing, assess strategic assessments, and understand risk management in outsourcing.

CO 3: Explore the future trends and innovations in E-commerce outsourcing.

CO 4: Evaluate the best practices in outsourcing assessments and techniques to assess and manage risks associated with outsourcing.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241PFE	Packaging for Ecommerce

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Understand the concept of packaging in E-commerce, including types, functions, and materials.

CO 2: Analyze the concept of brand equity and its relation to packaging in E-commerce.

CO 3: Explain the packaging journey in E-commerce, from consumer research to order delivery and receipt.

CO 4: Evaluate packaging techniques, technologies, and future prospects in the E-commerce industry.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241ECS	Ecommerce Customer Service

Course Outcomes: By successful completion of the course, students will be able to;

CO 1: Create customer-centric organizations and develop active listening and communication skills.

CO 2: Implement effective customer service strategies, handle customer encounters, and manage customer hand-offs.

CO 3: Understand customer behavior, analyze customer service tools, and implement customer service surveys and analysis.

CO 4: Evaluate various communication styles and strategies used in E-commerce customer service.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
BMS	IV	BMS241FO	Fulfillment Operations

Course Outcomes: By successful completion of the course, students will be able to;

Course Outcomes:

CO 1: Understand the basics of Fulfillment operations in E-commerce, including operational models and key drivers.

CO 2: Analyze the relationship between logistics and Fulfillment services, including warehousing aspects and packaging.

CO 3: Explore the role of technology in Fulfillment processes and platforms.

CO 4: Evaluate prospects in Fulfillment, including bundled orders, mini Fulfillment via technology, and market trends.

Department of History

Program	Semester	Course Code	Course Name
B.A,	I	HIS111IHC	ANCIENT INDIAN HISTORY & CULTURE

After successful completion of this course, the student will be able to:

CO 1: Identify and define various kinds of sources and understand how history books are shaped

CO 2: Compare and contrast various stages of progress from IVC to Vedic age and analyze the Jain, Buddhist and Vedic faiths

CO 3: Increase the awareness and appreciation of Transition from Territorial States to Emergence of Empires

CO 4: Analyze the emergence of the Mauryan and Gupta empires during the "classical age" in India

CO 5: Evaluate the key facets of ancient society, polity and culture in South India—the feudalism, and the rise of technology and commerce.

CO 6: Critically examine the nature of monarchic rule and develop an comprehensive understanding of cultural evolution during ancient period Visualize where places are in relation to one another through map pointing.

Program	Semester	Course Code	Course Name
B.A,	II	HIS122IHC	MEDIEVAL INDIAN HISTORY &CULTURE (1206 A.D to 1764 A.D)

After successful completion of this course, the student will be able to:

CO 1: Understand the socio, economic and cultural conditions of medieval India

CO 2: Describe the advent of Islam in India and study the traces of political and cultural expansion of Turks & Afghans

CO 3: Explain the Administration and art and architecture ofVijayanagar Rulers, Mughal and also analyse the rise of the Marathas and the contribution of Shivaji

CO 4: Evaluate the establishment of the British rule in India and understand the dangerous consequences disunity at all levels

CO 5: Analyze the emergence of composite culture in Indian

CO 6: Visualize where places are in relation to one another through map pointing

Program	Semester	Course Code	Course Name
B.A,	III	HIS233MHC	MODERN INDIAN HISTORY & CULTURE (1764-1947 A. D)

After successful completion of this course, the student will be able to:

CO 1: Unearth the true nature of the British rule and its disastrous impact on Indian economy and society

CO 2: Gauge the disillusionment of people against the Company's rule even during the early 19th century

CO 3: Assess the causes and effects of Reformation movements and also inspire the public to overthrow inequalities of the present day society

CO 4: Rise above petty parochial issues after understanding the sacrificial saga of freedom struggle

CO 5: Evaluate the undercurrent of communal politics that led to India's partition and identify the enemies of India's integrity and sovereignty

Visualize where places are in relation to one another through map pointing

Program	Semester	Course Code	Course Name
B.A,	IV	HIS244HCA	HISTORY & CULTURE OF ANDHRA (FROM 1512 TO 1956 AD)

After successful completion of this course, the student will be able to:

CO 1: Interpret social and political and cultural transformation from medieval modern Andhra

CO 2: Relate key historical developments during medieval period occurring in coastal Andhra and Telangana regions and analyze socio - political and economic changes under Qutb Shahi rulers

CO 3: Understand gradual change, or change in certain aspects of society in Andhra, rather than rapid or fundamental changes

CO 4: Explain how the English East India Company became the most dominant power and outline the impact of colonial policies on different aspects in Andhra

CO 5: Outline the issues related to caste, women, widow remarriage, child marriage, social reforms and the laws and policies of colonial administration towards these issues

CO 6: Take pride in the non-violence struggle for Indian Independence and rel the importance of peace in everyday life

CO 7: Apply the knowledge of the regional history to understand the regional, linguistic and other cultural aspirations of the present day society Visualize where places are in relation to one another

through map pointing

Program	Semester	Course Code	Course Name
B.A,	V	HIS356THS	Tourism and Hospitality Services

After successful completion of this course, the student will be able to:

CO 1: Understand hospitality as a career

CO 2: Inculcate interpersonal skills

CO 3: Develop the ability for multitasking and crisis management

CO 4: Understands the spirit of teamwork

CO 5: Acknowledge the importance of guest service and satisfaction

Program	Semester	Course Code	Course Name
B.A,	V	HIS357TGO	Tourism Guidance and Operating Skills

After successful completion of this course, the student will be able to:

CO 1: Acquire tour guiding, operating and soft skills

CO 2: Understand different situations under which one has to work

CO 3: Cultivate cultural awareness and flexibility

CO 4: Understand and apply team spirit

CO 5: Plan and organize tour operations efficiently

Department of Microbiology

Program	Semester	Course Code	Course Name
B.Sc.,	I	MIB111IMD	INTRODUCTION TO MICROBIOLOGYAND MICROBIAL DIVERSITY

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

CO 1: Students will be able to differentiate between the three major microbial classification systems. Haeckel's three kingdoms, Whittaker's five kingdoms, and Carl Woese's three domains.

CO 2: Students will classify archaebacteria, rickettsias, mycoplasmas, cyanobacteria, and actinomycetes based on their general characteristics

CO 3: Students will acquire skills in pure culture techniques, including enrichment culturing, dilution-plating, streak-plate, spread-plate, and micromanipulator usage.

CO 4: Students will exhibit proficiency in staining techniques, encompassing principles and types of stains (simple, differential, negative), as well as structural stains (spore, capsule, flagella), and hanging-drop methods

CO 5: Students will gain insight into the general characteristics of prokaryotes and eukaryotes, specifically micro-algae and micro-fungi, and appreciate the economic importance of algae and fungi, including the production of single-cell protein (SCP)

Program	Semester	Course Code	Course Name
B.Sc.,	II	MIB122MPB	MICROBIAL PHYSIOLOGY&BIOCHEMISTRY

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

CO 1 The ensure students to gain knowledge about structure ,properties and functions of bio molecules

CO 2 To ensure students to gain knowledge about amino acids necessary for daily life and structure and its properties

CO 3 To gain knowledge about the genetic materials and its functions and its overview

CO 4 Understand the physiological aspects of microbes and its role as biochemical reactions through different pathways

CO 5 To understand the role of enzymes in metabolism of microbes

Program	Semester	Course Code	Course Name
B.Sc.,	III	MIB233MHMD	MANAGEMENT OF HUMAN MICROBIAL DISEASES AND DIAGNOSIS

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

CO 1 To study about the pathogenic of diseases and diagnostic methods

CO 2 Able to explain the collection of clinical specimens and their transport methods

CO 3 Understand the principles and applications of all microorganisms by cultural methods

CO 4 Perform the immunological tests for the identification of microorganisms

CO 5 Perform the antibiotic sentivity methods for bacteria

Program	Semester	Course Code	Course Name
B.Sc.,	IV	MIB244MAM	MOLECULAR BIOLOGY AND MICROBIAL GENETICS

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

CO 1 Understand the terms and technologies related to Microbial genetics and Molecular biology

CO 2 know the concept of horizontal gene transfer mechanisms among the bacteria

CO 3 Understand the basic levels of gene concepts and features of genetic code

CO 4 Know the basic concepts of regulation of gene expressions in bacteria

CO 5 Understand the basic concepts of transcription and translation

Program	Semester	Course Code	Course Name
B.Sc.,	V	MIB356EAM	FOOD, AGRICULTURE AND ENVIRONMENTAL MICROBIOLOGY

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

CO 1: understand the role and significance of microbial inactivation, adaptation and environmental factors (i.e., Aw, pH, temperature) on growth and response of microorganisms in various environments

CO 2: Able to identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow.

CO 3 Identify techniques applicable for Improvement of microorganisms based on known biochemical pathways and regulatory mechanisms.

CO 4 Understand the rationale in medium formulation & design for microbial fermentation, sterilization of medium and different types of fermentation processes.

CO 5 Acquire experimental knowledge of microbial production of various industrial products such as alcohol.

Program	Semester	Course Code	Course Name
B.Sc.,	V	MIB357FIB	INDUSTRIAL & FOOD MICROBIOLOGY

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

CO 1 · Understand the role and significance of microbes adaptation in industry

CO 2 · Know about the product recovery and purification process

CO 3 · Role of enzymes in industry and its usage

CO4· Understand the rationale in medium formulation & design for microbial fermentation, sterilization of medium and different types of fermentation processes

CO 5 · Acquire experimental knowledge of microbial production of various industrial products such as alcohol.

Department of Anthropology

Program	Semester	Course Code	Course Name
B.A,	I	ANT111FA	Foundations of Anthropology-I

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

CO 1: Familiarity with anthropological literature and data sources, and a knowledge of how to critically access such information.

CO 2: Knowledge of the methodologies used to collect and assess critically anthropological data.

CO 3: The ability to present and communicate appropriately in at least one of the sub disciplines of anthropology.

CO 4: Knowledge of the history of anthropology (theoretical approaches) and the major current issues in the sub disciplines.

CO 5: An understanding and appreciation for the role of anthropology in the workplace and the real world.

Program	Semester	Course Code	Course Name
B.A,	II	ANT122FA	Foundations of Anthropology-II

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

CO 1: To have a measurable understanding of the fundamentals of Biological and Cultural evolutio naryaspectsofHumanEvolutionwithinsightsintomultipletheoriesregardingthesame.

CO 2: To comprehend various parameters, terms, and concepts in Evolutionary Biology.

CO 3 To have a comprehensive understanding of the origin of Primates along with their characteristic Features and behavioral traits including but not limited to their taxonomy.

CO 4 To have a deep grasp on the differences between man and apes with respect to their anatomy and Skeletal changes that arose due to erect posture in the process of evolution.

CO 5 To have an overview on varied aspects of different primates including but not limited to their.

Program	Semester	Course Code	Course Name
B.A,	III	ANT233SCA	Socio-Cultural Anthropology

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

CO 1: By the time of completion of the subject the students should get a broader picture of society culture and its economic organization political operations regions believes in customs in different societies

CO2: An understanding and appreciation of human biological, linguistic, and cultural diversity, especially those features that separates humans from other species.

CO 3: An appreciation and awareness of the origin of both cultural and human biological diversity through time.

CO 4: A positive appreciation of the diversity in contemporary and past societies and cultures.

Program	Semester	Course Code	Course Name
B.A,	IV	ANT244AT	Anthropological Theories

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

CO 1: develop familiarity with historical works of theory by Anthropologists of diverse backgrounds.

CO 2: learnaboutvariousculturalandpersonalityschoolofthoughtsalongwithstructu ralism.

CO 3: Learn about classical and neo evolutionism theories by studying contributions of the important Anthropologists in that subject matter.

CO 4: Learn about symbolic, interpretative, and cognitive theories and post modernism in Anthropology.

CO 5: StudyandunderstandlanguageandcommunicationthroughthelensofAnthropology.

CO 6: Develop a familiarity with the multiple ways that anthropologists apply their knowledge and skills as professionals in out side the academy.

Department of Psychology

Program	Semester	Course Code	CourseName
B.A,	I	PSY111GP	GENERAL PSYCHOLOGY-I

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

CO1: Acquire a foundational understanding of core concepts in psychology, including cognition, learning, memory, perception, and motivation.

CO2: Develop an introductory understanding of the scientific method and basic research techniques used in psychology, with the ability to critically assess and interpret psychological research.

CO3: Explore key theoretical perspectives in psychology, such as behaviorism, psychoanalysis, and cognitive psychology, to grasp different approaches to explaining behavior and mental processes.

CO4: Demonstrate an awareness of ethical considerations in psychological research and behavior, and apply basic ethical principles to psychological scenarios.

CO5: Apply psychological concepts to practical situations, demonstrating an understanding of how psychological principles can be relevant in everyday life.

Program	Semester	Course Code	CourseName
B.A,	II	PSY122GP	GENERAL PSYCHOLOGY-II

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

CO 1: Develop a nuanced and advanced understanding of major psychological theories and perspectives, including their historical context and contemporary relevance.

CO 2: Acquire advanced research skills, including the ability to design complex experiments, analyze sophisticated data sets, and critically evaluate advanced research literature.

CO 3: Integrate knowledge from various subfields within psychology, demonstrating an understanding of the interconnectedness of topics such as cognitive psychology, social psychology, and neuroscience.

CO 4: Develop advanced critical thinking skills by critically evaluating and synthesizing information from diverse sources, theories, and research studies within the field of psychology.

CO 5: Apply advanced psychological concepts to complex real-world scenarios, demonstrating an ability to address intricate issues and provide sophisticated insights based on psychological principles.

Program	Semester	Course Code	CourseName
B.A,	III	PSY233DP	DEVELOPMENTAL PSYCHOLOGY

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

CO 1: To equip the learner with an understanding of the concept and process of human development across the life span

CO2: To impart an understanding of the various domains of human development

CO3: To inculcate sensitivity to socio-cultural context of human development

Program	Semester	Course Code	CourseName
B.A,	IV	PSY244AP	Abnormal Psychology

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

CO1: Acquiring knowledge and skills for distinguishing normal and abnormal behaviour and learning the criteria for determining abnormality.

CO2: Developing familiarity with the current diagnostic systems (current edition of the Diagnostic

and Statistical Manual of Mental Disorders and International Classification of Diseases- Mental Disorder section).

CO3: Acquiring knowledge about anxiety disorders and Trauma & Stressor-related, Dissociative, and Personality Disorders.

CO4: Developing sensitivity towards individual and cultural diversity. Counseling.

Program	Semester	Course Code	CourseName
B.A,	IV	PSY245SP	SOCIAL PSYCHOLOGY

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

CO 1: The paper aims at providing an overview about the concept of abnormality and the clinical picture and dynamics of various psychological disorders.

CO2: This will sensitize the students to information on psychopathology and dispel myths regarding it.

CO3: Acquiring knowledge and skills for distinguishing normal and abnormal behaviour.