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: 2019-2020

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 endeavours 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 endeavours 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 analyse 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.,- Mathematics, Statistics, Artificial Intelligence

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

PO 2: Ability to process and analyse 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, analyse 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 thinker and acquire problem solving capabilities.

PO 4: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipment's 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 the biodiversity conservation.

PO 6: Team Player: Students will learn team workmanship through project works and field trips in order to serve efficiently 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 relevancies in the day-to-day life.

PO 2: Critical reasoning and problem solving: Analyse 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 equipments.

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, 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 behaviour

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 reflect 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 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 camera.

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 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 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, analyse 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 a scientific proposal.

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 analyse 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 team work.

- 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: Analyse 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: Analyse 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 analyse 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, analyse 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 behaviour

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, entrepreneur, managers, consultant, 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 team work. To understand the importance of team work. 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 Skills:

- Students are competent in the uses of technology in modern organizational operations.
- To help students to make appropriate decision 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 labour practices.

M.Sc – Mathematics

Master of Science in Mathematics is a two-year degree programme which provides a strong foundation in Mathematics. Students can opt Create innovative computing solutions, mathematical models, and dynamic systems to solve problems in industries such as engineering, biology, and more . Students can choose to pursue lecturer in Mathematics, Scientific officer, General Management, Banking, Operational Research, Junior Research fellow, Data science Modelers.

Program Outcomes (PO's)

A graduate of the Master of Science Program will demonstrate:

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: Critical Thinking: They make reasoned decisions or judgments about what to do and think. In other words, students consider the criteria or grounds for a thoughtful decision and do not simply guess or apply a rule without assessing its relevance.

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: Problem solving: Improve students' willingness to try problems and improve their perseverance when solving problems. Improve students' self-concepts with respect to the abilities to solve problems. Make students aware of the problem-solving strategies.

PO 6: Time Management: Student can get Better work-life balance, Greater focus, Higher levels of productivity, Less procrastination, Things are simpler and easier, Increased energy.

M.Sc – Physics

Program Outcomes

The Master of Science in Physics program offers the candidate with knowledge, general proficiency, and investigative skills on an advanced level, needed in industry, education, and research.

On completion of program, the post graduates will

PO 1: Apply the knowledge of physics to solve difficult scientific problems.

PO 2: Categorize, articulate and evaluate complex scientific problem for higher studies.

PO 3: Select, design and apply suitable experimental techniques with computational tools to solve problems of physics.

PO 4: Apply the knowledge and skill in the design and development of Electronics circuits to achieve the needs of Electronic Industry.

PO 5: apply and demonstrate the basic physics in environmental context for sustainable development.

PO 6: Become professionally trained in the area of electronics and materials characterization

PO 7: Pursue research related to Physics and Materials characterization.

PO 8: Demonstrate interpersonal and communication skills as well as a commitment to life- long learning

M.Sc – Chemistry

Program Outcomes

At the end of the Program, students are able to

PO 1: Analyze the structure, bonding, spectral, magnetic and stability parameters of molecules, 4f, 5f elements and transition metal complexes

PO 2: Design the best probable mechanism for organic and inorganic reactions based on the concepts of thermodynamics and chemical kinetics and study the dynamics of chemical reactions.

PO 3: Acquire the concepts of green chemistry to design eco friendly organic synthesis to minimize environmental pollution by chemicals, solvents and by-products formed and used in the reaction

PO 4: Understand the theoretical aspects of various separation techniques used in chemical analysis and spectroscopic techniques like microwave, IR, Raman, ESR, proton and C13 NMR, Mass, 2DNMR, ORD and CD which in turn, will enhance their capability of interpreting the spectral data obtained from various techniques and use it for structural elucidation of organic compounds.

PO 5: Develop interest and skill for generating mechanistic path for organic transformations and carry out research in new environments and to become familiar with the analytical tools available.

PO 6: Devise change the connectivity of an existing organic backbone by using reactions that result in skeletal rearrangements.

PO 7: Understand the behavior of non-aqueous solvents and different types of chemical reactions which can be studied using non-aqueous solvents.

PO 8: Imbibe concepts related to reterosynthetic technique to synthesize stereoselective, regioselective and chemoselective organic compounds having potential therapeutic values in high yields.

M.Sc – Botany

The M.Sc. - Botany program is designed to equip students with subject domain knowledge and technical skills pertaining to plants in a holistic manner. It aims to train the students in all the areas of plant sciences with a unique combination of core and elective papers. Students have exposure to cutting-edge technologies that are currently used in the subject. They are made aware about the social and environmental issues, significance of plants and their relevance to the national economy.

Program Outcomes

Post graduate of the Botany Program will demonstrate:

PO 1: Knowledge and understanding of: 1. The range of plant diversity in terms of structure, function and environmental relationships. 2. The evaluation of plant diversity. 3. Plant classification and the flora of Andhra Pradesh. 4. The role of plants in the functioning of the global ecosystem. 5. A selection of more specialized, optional topics.

PO 2: Practical skills: Students learn to carry out practical work, in the field and in the laboratory, with minimal risk. They gain introductory experience in applying each of the following skills and gain greater proficiency in a selection of them depending on their choice of optional modules. 1. Interpreting plant morphology and anatomy. 2. Plant identification. 3. Vegetation analysis techniques. 4. A range of physiochemical analyses of plant materials in the context of plant physiology and biochemistry. 5. Plant pathology to be added for sharing of field and lab data obtained.

PO 3: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations.

PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and development of the information to provide valid conclusions

PO 5: Scientific Knowledge: Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.

PO 6: Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany

PO 7: Honesty and Integrity, Ethics: Student should be aware of ethical issues and regulatory considerations while addressing society needs for growth with honesty.

PO 8: Environment and Sustainability: Understand the issues of environmental contexts and sustainable development with respect to assessment, conservation and utilization of floral diversity

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 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

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

PSOS: 2019-2020

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 endeavours 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 endeavours 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 analyse 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.,- Mathematics, Statistics, Artificial Intelligence

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

PO 2: Ability to process and analyse 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, analyse 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 thinker and acquire problem solving capabilities.

PO 4: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipment's 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 the biodiversity conservation.

PO 6: Team Player: Students will learn team workmanship through project works and field trips in order to serve efficiently 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 relevancies in the day-to-day life.

PO 2: Critical reasoning and problem solving: Analyse 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 equipments.

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, 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 behaviour

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 reflect 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 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 camera.

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 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 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, analyse 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 a scientific proposal.

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 analyse 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 team work.

- 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: Analyse 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: Analyse 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 analyse 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, analyse 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 behaviour

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, entrepreneur, managers, consultant, 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 team work. To understand the importance of team

work. 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 Skills:

- Students are competent in the uses of technology in modern organizational operations.
- To help students to make appropriate decision 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 labour practices.

M.Sc – Mathematics

Master of Science in Mathematics is a two-year degree programme which provides a strong foundation in Mathematics. Students can opt Create innovative computing solutions, mathematical models, and dynamic systems to solve problems in industries such as engineering, biology, and more . Students can choose to pursue lecturer in Mathematics, Scientific officer, General Management, Banking, Operational Research, Junior Research fellow, Data science Modelers.

Program Outcomes (PO's)

A graduate of the Master of Science Program will demonstrate:

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: Critical Thinking: They make reasoned decisions or judgments about what to do and think. In other words, students consider the criteria or grounds for a thoughtful decision and do not simply guess or apply a rule without assessing its relevance.

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: Problem solving: Improve students' willingness to try problems and improve their perseverance when solving problems. Improve students' self-concepts with respect to the abilities to solve problems. Make students aware of the problem-solving strategies.

PO 6: Time Management: Student can get Better work-life balance, Greater focus, Higher levels of productivity, Less procrastination, Things are simpler and easier, Increased energy.

M.Sc – Physics

Program Outcomes

The Master of Science in Physics program offers the candidate with knowledge, general proficiency, and investigative skills on an advanced level, needed in industry, education, and research.

On completion of program, the post graduates will

PO 1: Apply the knowledge of physics to solve difficult scientific problems.

PO 2: Categorize, articulate and evaluate complex scientific problem for higher studies.

PO 3: Select, design and apply suitable experimental techniques with computational tools to solve problems of physics.

PO 4: Apply the knowledge and skill in the design and development of Electronics circuits to achieve the needs of Electronic Industry.

PO 5: apply and demonstrate the basic physics in environmental context for sustainable development.

PO 6: Become professionally trained in the area of electronics and materials characterization

PO 7: Pursue research related to Physics and Materials characterization.

PO 8: Demonstrate interpersonal and communication skills as well as a commitment to life- long learning

M.Sc – Chemistry

Program Outcomes

At the end of the Program, students are able to

PO 1: Analyze the structure, bonding, spectral, magnetic and stability parameters of molecules, 4f, 5f elements and transition metal complexes

PO 2: Design the best probable mechanism for organic and inorganic reactions based on the concepts of thermodynamics and chemical kinetics and study the dynamics of chemical reactions.

PO 3: Acquire the concepts of green chemistry to design eco friendly organic synthesis to minimize environmental pollution by chemicals, solvents and by-products formed and used in the reaction

PO 4: Understand the theoretical aspects of various separation techniques used in chemical analysis and spectroscopic techniques like microwave, IR, Raman, ESR, proton and C13 NMR, Mass, 2DNMR, ORD and CD which in turn, will enhance their capability of interpreting the spectral data obtained from various techniques and use it for structural elucidation of organic compounds.

PO 5: Develop interest and skill for generating mechanistic path for organic transformations and carry out research in new environments and to become familiar with the analytical tools available.

PO 6: Devise change the connectivity of an existing organic backbone by using reactions that result in skeletal rearrangements.

PO 7: Understand the behavior of non-aqueous solvents and different types of chemical reactions which can be studied using non-aqueous solvents.

PO 8: Imbibe concepts related to reterosynthetic technique to synthesize stereoselective, regioselective and chemoselective organic compounds having potential therapeutic values in high yields.

M.Sc – Botany

The M.Sc. - Botany program is designed to equip students with subject domain knowledge and technical skills pertaining to plants in a holistic manner. It aims to train the students in all the areas of plant sciences with a unique combination of core and elective papers. Students have exposure to cutting-edge technologies that are currently used in the subject. They are made aware about the social and environmental issues, significance of plants and their relevance to the national economy.

Program Outcomes

Post graduate of the Botany Program will demonstrate:

PO 1: Knowledge and understanding of: 1. The range of plant diversity in terms of structure, function and environmental relationships. 2. The evaluation of plant diversity. 3. Plant classification and the flora of Andhra Pradesh. 4. The role of plants in the functioning of the global ecosystem. 5. A selection of more specialized, optional topics.

PO 2: Practical skills: Students learn to carry out practical work, in the field and in the laboratory, with minimal risk. They gain introductory experience in applying each of the following skills and gain greater proficiency in a selection of them depending on their choice of optional modules. 1. Interpreting plant morphology and anatomy. 2. Plant identification. 3. Vegetation analysis techniques. 4. A range of physiochemical analyses of plant materials in the context of plant physiology and biochemistry. 5. Plant pathology to be added for sharing of field and lab data obtained.

PO 3: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations.

PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and development of the information to provide valid conclusions

PO 5: Scientific Knowledge: Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.

PO 6: Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany

PO 7: Honesty and Integrity, Ethics: Student should be aware of ethical issues and regulatory considerations while addressing society needs for growth with honesty.

PO 8: Environment and Sustainability: Understand the issues of environmental contexts and sustainable development with respect to assessment, conservation and utilization of floral diversity

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 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

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

COS: 2019-2020

Department of Economics

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 behavioural 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.

Program	Semester	Course Code	Course Name
B.A	II	ECO122 MEA	Macro Economics 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: Understand Say's law of market, classical theory of employment and Keynes objection to the 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 analyse the theories of absolute and relative income hypotheses.
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 version of quantity theory of money.
CO 6: Identify types of banks, explain the meaning and function of commercial banks, illustrate how banks create credit, and suggest the instruments to control credit.
CO 7: Illustrate the meaning of inflation, deflation, stagflation and reflation, identify different kinds of inflation, causes and effects of inflation on different sectors of the economy, describe different measures to control inflation

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 importance of Economic Growth and development, the present chapter creates an awareness on covid-19 immunity aspects.
CO 2: Student's become aware of growth of different countries and it also help to understand ways to development 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.

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 Indian economy and its development since independence, and also to understand the planning structure and the place of Indian economy in 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 im 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 analyse 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.

Program	Semester	Course Code	Course Name
B.A	V	ECO 355 EDIE	Economic Development and Indian Economy

On successful completion of the course, students will be able to
CO 1: To create an awareness and consciousness about the economy in which students live.

CO 2: To enhance the knowledge of economic problems in our economy among the students and to make them aware about the policy framework to solve these problems.
CO 3: To teach the students to analyze the policy implications and the critical appraisal of the policies.
CO 4: Discuss real world economic issues and problems the country and the world are facing.
CO 5: Equip students with the fundamentals of economics and the fundamental economic techniques to think about a number of policy questions related to the operation of the real economy.

Program	Semester	Course Code	Course Name
B.A	V	ECO 356 QTSA	Quantitative Techniques and Statistical Applications

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

CO 1: Train students in basic quantitative and statistical methods used in economics.
CO 2: Equip students with the mathematical and statistical techniques necessary for a proper understanding of the discipline.
CO 3: Equip students with the fundamentals of economics and the fundamental economic techniques to think about a number of policy questions related to the operation of the real economy.
CO 4: Apply the mathematical and statistical methods to the economic theory.
CO 5: Solve optimization problems in economic decision-making. Become more logical in making or refuting arguments.

Program	Semester	Course Code	Course Name
B.A	VI	ECO367PF	Public Finance

On successful completion of the course, students will be able to
CO 1: Explain the concepts of government and public finance.
CO 2: Compare the role of the state in the economy.
CO 3: Describe how and in which manner government spends, the causes of increasing public expenditure in the modern economies, explain the varying effects of public expenditure on the economy and role of public expenditure in a developing economy.
CO 4: Understand the various sources of government borrowing and the reasons behind the growing public debt, describe how the debt is repaid, the role of public debt in developing countries, explain the concept of debt trap.
CO 5: Research, and examine key issues and challenges in fiscal policy in a particular development or country context.

Program	Semester	Course Code	Course Name
B.A	VI	ECO368CE-1	Public Economic

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

CO 1: Analyse the canons and principles of taxation, explain the meaning of direct and indirect taxes, rate schedule of taxation, impact, incidence and shifting of taxes, explain the effects of taxation on production and distribution and the role taxation,
CO 2: Explain the government budget, explain different types of budgets such as balanced and unbalanced budget, capital and revenue budget, performance budget and zero base budgeting.
CO 3: Describe the objectives and components of fiscal policy, describe the role of fiscal policy in a developing economy.
CO 4: illustrate the principles of federal finance.
CO 5: Demonstrate their understanding of the usefulness and problems related to government revenues and expenditures

Program	Semester	Course Code	Course Name
B.A	VI	ECO368CE-2	Indian Banking System

On successful completion of the course, students will be able to
CO 1: Explain the meaning of money, and differentiate between money and near money.
CO 2: Describe the functions of commercial bank, describe the balance sheet of a commercial bank, explain the credit creation of commercial bank.
CO 3: Describe the functions of central bank, explain the role of central bank in the context of a developing country, explain the credit control policy of central bank.
CO 4: Explain the meaning and constituents of financial system, differentiate between money market and capital market, describe the role of stock market in economic development.
CO 5: Understanding the qualitative measures followed by central bank to control credit, intervention mechanisms and ways to achieve exchange rate stability

Program	Semester	Course Code	Course Name
B.A	VI	ECO368CE-3	Rural and Farm Credits

On successful completion of the course, students will be able to
CO 1: Understand the significance of Rural credit.
CO 2: Get acquainted with functioning of Rural Credit Institutions and their problems.
CO 3: Take review of rural credit policies.
CO 4: Make the students understand the functioning of rural Credit institutions.
CO 5: Explore 3R's and 3C's.

Program	Semester	Course Code	Course Name
B.A	I	SDC111 IP	Insurance Promotion (SDC1)

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

CO 1: Explain understand the concepts and principles of insurance
CO 2: Analyse various types of insurance and insurance business in India.
CO 3: Get awareness of insurance legislation in India.
CO 4: Compare Public and Private Insurance companies.
CO 5: Equip himself with changing Insurance scenario.

Program	Semester	Course Code	Course Name

B.A	II	SDC232FM	Financial Markets (SDC2)

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

CO 1: Get knowledge about financial services in India as Indian Financial System, Financial Markets, Banking and Insurance Sector in India and Recent Trends in Accounting and Finance
CO 2: Be acquainted with current financial practices
CO 3: Get acquainted with Financial Markets.
CO 4: Compare financial sectors in India.
CO 5: Analyse Stock market.

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 responsibilities of human 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 analyse 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	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 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

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 onData 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 language like Java

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	V	CSC355OS	Principles OF Operating System

Upon successful completion of the course, a student will be able to:
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.
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 and 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., (MPCs, MSCs, MECs, MEtCs)	V	CSC356SE	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 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., (MPCs, MSCs, MECs, MEtCs)	VI	CSC367DS	Data Structure

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)	VI	**CSC368C1**	BIG DATA TECHNOLOGY

Upon successful completion of the course, a student will be able to:
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., (MPCs, MSCs, MECs, MEtCs)	VI	**CSC368CC-C2**	**CLOUD COMPUTING**

At the end of the course student will
CO 1: Understand the fundamentals of cloud computing its origin and essential characteristics.
C**O 2:** Learn about Cloud Scenarios, Security and Limitations of Cloud Computing
CO 3: Understand the Cloud architecture, Learn about Various service providers of SaaS and PaaS
CO 4: Get the knowledge about Various service providers of IaaS, Learn about the cloud deployment models
CO 5: Understand Virtualization concepts
CO 6: Get the basic knowledge of web services

Program	Semester	Course Code	Course Name
B.Sc., (MPCs, MSCs, MECs, MEtCs)	VI	CSC368FDS-C3	FOUNDATIONS OF DATA SCIENCE

At the end of the course student will
CO 1: Understand the foundation of data science and its characteristics.
CO 2: Understand data science concepts
CO 3: Get the basic knowledge of all about data science

Department of Statistics

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MES, 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: Analyse 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 analyse Statistical data.
CO 5: Expectation of random variable and its properties and various function of random variable.

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

CO 1: Concept of bivariate random variable and its joint and marginal probabilities. Properties of bivariate random variable. Applications of Chebyshev's Inequality and central limit theorem
CO 2: Univariate discrete probability distributions viz., Bernoulli Binomial and Poisson distributions, properties and their applications
CO 3: Univariate discrete probability distributions viz., Negative Binomial, Geometric and Hypergeometric distributions, properties and their applications
CO 4: Univariate continuous probability distribution - Normal distribution properties and its applications, standard normal variate, problems on normal area property
CO 5: Univariate continuous probability distributions viz., Cauchy, Exponential, Gamma and Beta Hypergeometric distributions, properties and their applications

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

CO 1: Bivariate data- graphical representation, frequency distribution, conditional frequency distribution. Karl Pearson's Correlation coefficient, Spearman's Rank Correlation Coefficient and its properties.
CO 2: Regression line and its properties, diagnostics of regression line, Multiple correlation, Partial correlation and multiple regression lines for trivariate data
CO 3: Dealing attributive nature of data, classification and its frequencies, consistency, independency and association of attributes and their properties
CO 4: 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
CO 5: Concept of Estimation –properties of good estimator and method of parametric estimation and confidence intervals

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MES, MSCs)	IV	STAT244SI	Statistical Inference

CO 1: Concepts of null and alternative hypotheses, critical region, cevel of significance, power of a test, Types of errors, p-values and N-P lemma on testing simple null hypothesis against a simple alternative hypothesis

CO 2: 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 3: Applications of large sample tests for variables and attributes and Fishers Z transformation and its applications
CO 4: Able to understand the difference between parametric and non-parametric tests and applications of various non parametric tests
CO 5: Chi-Square test for Goodness of fit and Independence of Attributes. Concept of Sequential Probability Ratio Tests and OC and ASN functions of sequential sampling pla

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MES, MSCs)	V	STA355DES	Design of Experiments and Sample Surveys

CO 1: Concept of population and sample, census and sample survey, sampling errors, probability and non-probability sampling techniques. Simple random sampling and its properties.
CO 2: Sampling techniques viz,. Stratified and Systematic sampling and their properties, Neyman – optimal and proportional allocations and comparison of simple, stratified and systematic sampling.
CO 3: 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 4: Analysis of Latin Square Design and factorial designs with main and interaction effects and its applications.
CO 5: About Ministry of Statistics & Program Implementation (MoSPI) and knowledge on Present official statistical system in India.

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.
CO4: Understand the concept of Transprotation 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 Maximini rule, definitions of Saddle point, Pay off 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	STAT367AS	APPLIED STATISTICS

CO 1 : Understand census data, Fertility and Mortality rates, standardized death rates, components of complete and abridged life table, 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)	VI	STA368C1SQC	Statistical Quality Control

CO 1: Get in-depth knowledge of theoretical and practical aspects of statistical quality control.
CO 2: Understanding of the link between SQC and manufacturing industries.
CO 3: Application of quantitative and qualitative tools in real life to improve quality.
CO 4: Data or results of analysis visualization and dissemination of quality management processes.
CO 5: Concept of Six Sigma, Precision and accuracy measurement systems, Quality systems like ISO 9000, QS 9000 standards

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MES, MSCs)	VI	STA368C2OT	Optimization techniques

CO 1: At the end of this unit students are able to formulate the Linear Programming Problem (LPP) and its solutions through graphical approach.
CO 2: On completion of this unit, one can find the mathematical solution to LPP through Simplex method, two phase technique, Big-M method. Identifying the alternative optimum solutions and resolving degeneracy in solving the LPP.
CO 3: At the end of this unit students are able correlate the connection between two related linear programming problems, where one of them, the primal, is a maximization problem and the other, the dual, is a minimization problem.
CO 4: On completion of this unit, students are able to adopt the IPP techniques to business and industry programming models that leads to decisions involving integer valued variables.
CO 5: At the end of this unit, students are able to integrating and presenting data from multiple activities through arrow diagram and able to identify the project completion time with deterministic and probabilistic time estimates.

Program	Semester	Course Code	Course Name
B. Sc.,(MSP, MES, MSCs)	VI	STA368C3BSD	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 generate statistical analysis.

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 a 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 shortest distance.
CO 5: be able to define plane section of 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	MAT 244 RA	Real Analysis

At the end of the course students will be able to:
CO 1: identify the behaviour of a sequence by employing relevant results
CO 2: analyse 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 eigen value, eigen vector 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 student will be able to
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: analyse 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 (MPC, MSP, MSCs, MCsP, MECs) B.A (MSE)	V	MAT 355 MT	Matrix Theory

At the end of the course student will be able to
CO 1: understand different types of matrices and the concept of Rank of a Matrix.
CO 2: find the solution of homogeneous and non homogeneous equations.
CO 3: find the eigen values and eigen vectors of a square matrix.
CO 4: understand the applications of Cayley Hamilton Theorem
CO 5: understand the concept of Matrix Transformations.

Program	Semester	Course Code	Course Name
B. Sc (MPC, MSP, MSCs, MCsP, MECs) B.A (MSE)	V	MAT 356 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 linear dependence and linear independence
CO 3 : understand the concepts of basis, dimension and their properties
CO 4 : understand the concepts of linear transformations and their properties
CO 5 : understand the properties of inner product spaces and determine orthogonality in inner product spaces.

Program	Semester	Course Code	Course Name
B. Sc (MPC, MSP, MSCs, MCsP, MECs) B.A (MSE)	VI	MAT 367 NT	Number Theory

At the end of the course student will

CO 1: identify and apply various properties of integers including Well-ordering principle, primes, unique factorization, the division algorithm.
CO 2: be able to apply Euclid's algorithm and backward substitution.
CO 3: understand the definitions of congruences, residue classes and least residues modulo n.
CO 4: be able to find integral solutions to specified linear Diophantine Equations
CO 5: be able to apply Fermat's, Wilson's Theorem to prove relations involving prime numbers.
CO 6: be able to identify certain number theoretic functions and their properties.

Program	Semester	Course Code	Course Name
B.Sc / B.A (Mathematics Cluster)	VI	MAT368C1VC	Vector Calculus

At the end of the course student will

CO 1: gain the knowledge of central concepts in multiple integrals, divergence, curl, the theorems of Green and Stokes, and the divergence theorem.
CO 2: study the rate of change of a multivariable function with respect to each of its independent variables.
CO 3: be able to understand double and triple integrals and be able to determine the volume and surface area by multiple integrals.
CO 4: be able to understand the concepts of gradient vector and the directional derivative.
CO 5: be able to understand the Gradient vector of a function of three variables and its properties.

Program	Semester	Course Code	Course Name
B.Sc / B.A (Mathematics Cluster)	VI	MAT368C2GT	Graph Theory

At the end of the course student will

CO 1: be able to apply principles and concepts of graph theory in practical situations.
CO 2: be able to identify basic concepts of trees and rooted trees.
CO 3: be able to compute the distance in graphs and weighted graphs and find critical paths
CO 4: be able to identify maximum matching in a bipartite graph.
CO 5: understand the various types of graph Algorithms and graph theory properties.

Program	Semester	Course Code	Course Name
B.Sc / B.A	VI	MAT368C3NA	Numerical Analysis

(Mathematics Cluster)			

At the end of the course student will be able to
CO 1: approximate functions by polynomials, differentiation & integration.
CO 2: solve linear system of equations.
CO 3: use several methods of solving algebraic and transcendental equations of one variable.
CO 4: recognize the contribution and impacts of Numerical Analysis in real life problem.
CO 5: analyze and interpret information from a variety of sources relevant to Numerical Analysis.
CO 6: use information and communication technology to discuss problems relevant to Numerical
Analysis.

Program	**Semester**	**Course Code**	**Course Name**
B.Sc / B.A (Mathematics LSC)	III	MAT LSC AS	Analytical Skills

At the end of the course student will be able to
CO 1: understand the basic concepts of logical reasoning.
CO 2: acquire competency in the use of verbal reasoning.
CO 3: apply the skills and competencies acquired in the related areas.
CO 4: solve problems pertaining to logical reasoning and verbal ability.
CO 5: construct a logically sound and well-reasoned argument.

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 know wide range of applications of transistors, feedback concepts and its applications as oscillators.

Program	Semester	Course Code	Course Name
B.Sc. (MECS)	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 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 &analyses line and load regulation in transformer.
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 loud speaker.
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: Analyse the fundamentals and areas of applications for the integrated circuits and analyse 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 analyse, build, and troubleshoot combinatorial circuits using digital integrated circuits
CO 6: Design, set up, and carry out experiments; analyse 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 PCB's, 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 Off's, 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's, 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 with Microprocessor.

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: Analyse role of diffuser in elimination of multiple source shadow effect of LED luminaire and minimising 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 foot prints, bottom of PCB and inside the enclose. 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, analyse, 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 luminaries 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, Blue tooth 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 micro controller

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	Communication Systems

At the end of the course student will

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

A. Analyse 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. (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 thyristor like diac, triac ,igbt, power MOSFET.

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

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

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 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 & analyses line and load regulation in transformer.

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 loud speaker.

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.(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 PCB's, 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 Off's, 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's, 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 computer based on technology, what thing he/she see inside the central processing cabin, and different types of input and out devices.

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

CO 3: Will know about different ports and their communication between inputs, output device with theCPU 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 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 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: Analyse 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 foot prints, bottom of PCB and inside the encloser. 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 a Computer Network basics and types of Networking, different types if 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 colour 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 luminaries 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, Blue tooth and IR communication.

Program	Semester	Course Code	Course Name
B.Sc.(ELE CS)	IV	ELE249MCI	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 micro controller
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 thyristor like diac, triac ,igbt, power MOSFET.

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

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

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.

Department of Physics

PROGRAM	SEMESTER	CODE	COURSE
B.SC MPC, MSP, MPS	I		Mechanics & Waves – Oscillations

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

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: Appreciate the formulation of the problem of coupled oscillations and solve them to obtain normal modes of oscillation and their frequencies in simple mechanical systems.

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	CODE	COURSE

B.SC MPC,MSP,MPS	II		Wave 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 Fraunhoffer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating.
CO 3: Describe the construction and working of zone plate and make the comparison of zone plate with 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 fibre optic communication and explore the field of Holography and Nonlinear optics and their applications.

PROGRAM	SEMESTER	CODE	COURSE
B.SC MPC, MSP, MPS	III		Optics

On successful completion of this course, the student will be able to:
CO 1: Understand the matrix method for the analysis of a lens system.
CO 2: Understand the formulations of Lens makers formula.
CO 3: Understand various aberrations of the lens system.
CO 4: 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 5: Distinguish between Fresnel's diffraction and Fraunhoffer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating.
CO 6: Describe the construction and working of zone plate and make the comparison of zone plate with convex lens.
CO 7: Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity.

PROGRAM	SEMESTER	CODE	COURSE
B.SC MPC, MSP,MPS	IV		Thermodynamics

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

CO 1: Understand the basic aspects of kinetic theory of gases, Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions and the transport phenomenon in ideal gases
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 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	CODE	COURSE
B.SC MPC, MSP,MPS	V		Electricity Magnetism

On successful completion of this course, the students will be able to:
CO 1: Understand the Gauss law and its application to obtain electric field in different cases and formulate the relationship between electric displacement vector, electric polarization, Susceptibility, Permittivity and Dielectric constant.
CO 2: Distinguish between the magnetic effect of electric current and electromagnetic induction and apply the related laws in appropriate circumstances.
CO 3: Understand Biot and Savart's law and Ampere's circuital law to describe and explain the generation of magnetic fields by electrical currents.
CO 4: Develop an understanding on the unification of electric and magnetic fields and Maxwell's equations governing electromagnetic waves.
CO 5: Phenomenon of resonance in LCR AC-circuits, sharpness of resonance, Q- factor, Power factor and the comparative study of series and parallel resonant circuits.
CO 6: Describe the operation of p-n junction diodes, zener diodes, light emitting diodes and transistors
CO 7: Understand the operation of basic logic gates and universal gates and their truth tables.

PROGRAM	SEMESTER	CODE	COURSE
B.SC MPC,MSP,MPS	V		Atomic & Molecular Physics

Upon successful completion of the course, a student 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	CODE	COURSE

B.SC MPC,MSP,MPS	VI		Analog and Dizital Electronics

After studying this course the students would

CO 1: Understand the characteristics of JFET

CO 2: Understanding the Characteristics and applications of operational amplifiers.

CO 3: Design and analysis of operational Amplifiers.

CO 4: Have a thorough understanding of the fundamental concepts and techniques used in digital electronics.

To understand and examine the structure of various number systems and its application in digital design

PROGRAM	SEMESTER	CODE	COURSE
B.SC MPC,MSP,MPS	VI		Cluster 1 Introduction to Microprocessors and Micro controllers

After completion of the course students will be able to

CO 1: The student will learn the internal architecture, and organization of the popular ICs 8085, 8255, 8257, and 8051.
CO 2: The student will learn the design of microprocessors/microcontrollers- based system.
CO 3: The student will understand the structure, hardware, software, and the environment for the development of embedded systems.
CO 4: To understand the basic 8 bit microprocessor architecture and its functionalities.

CO 5: To make the students to understand the programming model of a Microprocessor.
CO 6: To develop the microprocessor based programs for various applications.
CO 7: To make the students to understand the interfacing between microprocessor and various peripherals.
CO 8: To develop the microcontroller based programs for various applications.
CO 9: To enable the students to understand the basic features of 8051.

PROGRAM	SEMESTER	CODE	COURSE
B.SC MPC, MSP, MPS	VI		Cluster 2 Material Science

After finishing the course, students will be able to
CO 1: Understand various types of crystal structures and defects
CO 2: Understand Dielectric properties of the materials
CO 3: Understand the magnetic properties of the materials.
CO 4: Have a basic understanding of various advanced materials like Liquid crystals and Glass materials.
CO 5: Classify materials according to their types.
CO 6: Describe basic definition and conception of materials and physical properties of materials.

PROGRAM	SEMESTER	CODE	COURSE
B.SC MPC, MSP, MPS	VI		Cluster 3 Electronic Instrumentation

After completion of the course, students will be able to

CO 1: Understand concepts like Feedback

CO 2: Understand operation of different instruments.

CO 3: Describe different terminology related to measurements.

CO 4: Understand the principles of various types of transducers and sensors.

Department of Botany

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	I	**BOT111**	Fundamentals of Microbes and Non - vascular Plants.

CO 1: Understand the classification of Microorganisms.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	BOT122	Basics of Vascular plants and Phytogeography

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	BOT233	Anatomy, Embryology of Angiosperms, Ecology and Biodiversity

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.
Understand the evolutionary process of Stele and Seed habit in Pteridophytes.
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 Plant cells, tissues and their functions.
To make connections between Anatomy and other branches of Botany.
CO 5: Understand the Process of Normal secondary growth and Anomolous 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	BOT244	Plant Physiology & Metabolism

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	BOT245	Cell Biology, GeneticS & Plant Breeding

CO 1: Understand and explain the structure and composition of plant cell wall, plasma membrane and morphology and organization of DNA in Chromosomes
CO 2: Understand the types, structure and replication of genetic material and it's expression
CO 3: Understand Mendelian laws of inheritance and concepts of Linkage and Crossing over in inheritance
CO 4: Understand the traditional plant breeding methods and selection process for improved varieties
CO 5: Understand the importance of biotechnology in Crop improvement using mutations, Somaclonal variations and molecular markers

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	V	BOT355	Cell Biology, Genetics & Plant Breeding

CO 1: Understand and explain the structure and composition of plant cell wall, plasma membrane and morphology and organization of DNA in Chromosomes
CO 2: Understand the types, structure and replication of genetic material and it's expression
CO 3: Understand Mendelian laws of inheritance and concepts of Linkage and Crossing over in inheritance
CO 4: Understand the traditional plant breeding methods and selection process for improved varieties
CO 5: Understand the importance of biotechnology in Crop improvement using mutations, Somaclonal variations and molecular markers

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	V	BOT356	Plant Ecology and Phytogeography

CO 1: Understanding core concepts of biotic and abiotic elements.
CO 2: Classify the soils on the basis of physical, chemical and biological components.
CO 3: Analysis of the phytogeography of India and World.
CO 4 : Assess the adaptation of plants in relation to light, temperature, water, wind & fire.
CO 5 : Evaluate energy sources of ecological system.

PROGRAM	SEMESTER	CODE	COURSE

B. Sc., - BZC	VI	BOT367	Nursery, Gardening and Floriculture

CO 1: Students will be able to acquire and articulate knowledge relevant to nursery structure and they will study the importance and scope of nursery in the horticulture.
CO 2: The students will gain thorough knowledge about garden types, establishment and maintenance of gardens.
CO 3 : The students will be able to know the different types of propagation techniques, methods of seed certification and seed bed preparation.
CO 4: Students will be able to acquire and articulate knowledge relevant to different types of cut flowers. Cultivation and different types of verities in the cut flowers
CO 5: The students will gain thorough knowledge about preservation of cut flowers, bouquet preparations, pest management etc.

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	VI	BOT368-CLU-1	Plant diversity and human welfare

CO 1: Understand different levels and values of Biodiversity and methodologies for valuation
CO 2: Understand various causes for the loss of Biodiversity and management of plant biodiversity through legislation and Biodiversity information management and communication
CO 3: Understand Environment Impact Assessment and contemporary practices in resource management
CO 4: Understand conservation of biodiversity at various levels through social approaches and awareness programmes for sustainable development
CO 5: To gain knowledge of locally available useful plants and their economic importance

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	VI	BOT368 -CLU-2	Ethno Botany and Medicinal plants

CO 1 : Conceptualize ethnobotany as an interdisciplinary science.
CO 2: Restate the established methodology of ethnobotanical studies.
CO 3: Categorize various indigenous ethnic groups and their environmental practices.
CO 4: Understand the legalities associated with ethnobotany.
CO 5: Understand the principles of Ayurveda, Siddha and Unani.

PROGRAM	SEMESTER	CODE	COURSE
B. Sc., - BZC	VI	BOT368 -CLU-3	Pharmacognosy and Phytochemistry

CO 1: To study the importance of Pharmacognosy and evaluation of drugs
CO 2: It reveals the organoleptic powdery microscopy and adulterants of crude drugs
CO 3: To study different types of secondary metabolites, classification and synthesis of Alkaloids
CO 4: To explore biosynthesis and source of different types of secondary metabolites
CO 5: To understand different types of vitamins, enzymes and amino acids and its importance

Department of Zoology

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	I	ZOOADBNC111(T)	Animal Diversity-Biology OF Non Chordates

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 pathogencity 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)	I	ZOOADBNC111(P)	Animal Diversity-Biology OF Non Chordates

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

CO 1: Describing the of preservation of museum specimens

CO 2: Identify the Non Chordates based on their special identifying characters

CO 3: Knowledge of different organ systems through demoor virtualdis sections

CO 4: Maintaining an eat, labeled record of identified museum specimens

CO 5: Knowledge of Taxonomical relationships and advancement of characters from lower group to higher groups.

CO 6: Knowledge of diversity among non chordates

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	II	ZOOADBC122(T)	Animal Diversity-Biology of Chordates

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 Vertebrata classes.
CO 3: Acquainted 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)	II	ZOOADBC122(P)	Animal Diversity-Biology of Chordates

On successful completion of this practical course, the student will be able to;
CO 1: Tounderst and the taxidermic and other methods of preservation of chordates

CO 2: To identify chordates based on special identifying character

CO 3: To understand internal anatomy of animals through demo or virtual dissections,
CO 4: To maintain an eat, labeled record of identified museum specimens

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	III	ZOOCGE233(T)	Cell Biology, Genetics, Evolution

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 acquainted 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)	III	ZOOCGE233(P)	Cell Biology, Genetics, Evolution

On successful completion of this practical course,
the student will be able to;
CO 1: Acquainting and skill enhancement in the usage of laboratory microscope
CO 2: Identify different phases of cell division by experimentation
CO 3: Develop skills on human karyotyping and identification of chromosomal disorders
CO 4: To apply the basic concept of inheritance of in research
CO 5: To get familiarity with phylogeny and geological history of origin & evolution of animals

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME

B.Sc (BZC)	IV	ZOOEPE244(T)	Embryology, Physiology and Ecology

By successful completion of the course, students will be able to;
CO 1: Describe the functions of important animal physiology 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 bio molecules
CO 5: Understands various in early embryonic development of vertebrates from gametogenesis to gastrulation and formation of primary germ layers
CO 6: Understand about importance of Environment, it's components, Cycling of nutrient elements etc.,

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	IV	ZOOEPE244(P)	Embryology, Physiology and Ecology

On successful completion of this practical course, the student will be able to;
CO 1: Identification of an organ system with histological structure
CO 2: Deducing human health based on the information of composition of blood cells
CO 3: Demonstration of enzyme activity *in vitro*
CO 4: Identification of various biomolecules of tissues by simple colorimetric methods and also quantitative methods
CO 5: Identification of different stages of earl embryonic development in animals

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	V	ZOOANH356(T)	Animal Husbandry

By successful completion of the course, students will be able to;
CO 1: This course aims to develop human resource in the area of Poultry farming and Dairy farming.
CO 2: The main objective is to augment Milk, meat, egg and other Animal Products.
CO 3: Students will be able to Integrate and apply Essential core information about the key components of Animal Health and Production.
CO 4: Helps in Developing high yeilding breeds of animals.
CO 5: Animal husbandry helps in increasing the standard of living of farmers.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	V	ZOOIMAB245(P)	Animal Husbandry

On successful completion of this practical course, the student will be able to;
CO 1: Helps to identify many chicken breeds and many poultry breeds other than chickens.
CO 2: Helps in identifying Dairy animals grown in India and around the world.
CO 3: Provides knowledge about good meat, egg yielding chickens and Milk yielding buffaloes and cows

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	V	ZOOABT355(T)	Animal Biotechnology

By successful completion of the course, students will be able to;
CO 1: Imparts the Knowledge about basics of r-DNA technology, various enzymes, cloning vectors etc.,
CO 2: Learn about various techniques like Electrophoresis, PCR, Blotting techniques etc.,
CO 3: Imparts the Knowledge to culture animal cells in artificial media.
CO 4: Knowledge of animal reproductive technologies and their applications
CO 5: Use in in a variety of industrial processes, agriculture, aquaculture etc.,

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	V	ZOOABT355(P)	Animal Biotechnology

On successful completion of this practical course, the student will be able to;
CO1: Demonstrate basic laboratory skills necessary for Biotechnology research Promoting application of the lab techniques for taking up research in higher studies
CO2: Get acquainted with isolation of DNA from bacterial and animal cells
CO3: Understand about Separation of DNA molecules by electrophoresis, Polymerisation of DNA .
CO4: Gain knowledge about preparing culture media,

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI	ZOOIM367(T)	Immunology

By successful completion of the course, students will be able to;
CO1: Imparts in depth knowledge of tissues, cells and molecules involved in host defense mechanisms
CO2: Understanding of types of immunity
CO3: Interactions of antigens, antibodies, complements and other immune components
CO4: Understanding of immune mechanisms in disease control, vaccination, process of immune interactions

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI	ZOOIM367(P)	Immunology

By successful completion of the course, students will be able to;
CO1: Get acquainted with the structure and histology of Lymphoid organs
CO2: Able to determine blood grouping of given blood sample, can perform immunological techniques like ELISA
CO3: Interconnect the theoretical and practical knowledge of immunity with the outer world for the development of a healthier life.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME

B.Sc (BZC)	VI	ZOOPA368(1)(T)	Principles of Aquaculture

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

CO 1: The students will gain an overview of the fisheries and Aquaculture in the World.

CO 2: The learner will be able to understand what is Aquaculture and it's contribution in the Global scenario.

CO 3: They can Critically evaluate the factors which are important for a Sustainable Aquaculture and growth in the industry.

CO 4: Learner will gain Knowledge and Awareness of all the techniques and Culture practices involved in aquaculture.

CO 5: Future outlook of India in terms of Aquaculture can be assessed.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI	ZOOPA368(1)((P)	Principles of Aquaculture

On successful completion of this practical course, the student will be able to;
CO 1: Students will be able to identify commercially and edible important finfish and shellfish available in natural waters.
CO 2: Will be aware of species to be cultured in Freshwater, Brackish and marine water.
CO 3: They can identify various species of Ornamental/Aquarium fishes of Fresh and Brackish water for Community aquarium or Single species aquarium.
CO 4: They can identify the fish based on the Morphometric and Meristic data.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI	ZOOPA368(2)((T)	Aquaculture Management

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

CO 1: Overview importance of Freshwater and Coastal Aquaculture, Current trends in Aquaculture systems will be understood.
CO 2: Students will be able to apply the Principles of appropriate site selection for the enhanced sustainability of aquaculture.
CO 3: They can also identify design, Operational and management principles and key systems essential for Aquaculture Production.
CO 4: They gain awareness on different Aquaculture systems and facilities in use Worldwide.
CO 5: Learner can Classify types of ponds and types of Breeding practices in Aquaculture.
They will gain Critical knowledge on commercial importance of finfish and shellfish.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI	ZOOPA368(2)((P)	Aquaculture Management

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

CO 1: Will know the importance of water quality and soil quality parameters in Aquaculture for proper growth and management of fishes.
CO 2: Will be aware of various feed preparations, feeding schedules for various fishes and feeding regimes.
CO 3: They can identify various live feeds, Zoo planktons, Aquatic insects and Aquatic weeds and understand their role in aquaculture.
CO 4: Culture operation and disease management will be discussed.
CO 5: Learner will be aware of various diseases of fish and shellfish and their control measures, Disease treatment.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI	ZOOPA368(3)((T)	Post Harvest Technology

By successful completion of the course, students will be able to;
CO 1: They will be aware of various Traditional and Advances methods of fish preservation.
CO 2: They the choose the suitable processing methods in aquaculture.
CO 3: They will be able to maintain the standard quality control protocols laid down in aqua industry.
CO 4: Study of HACCP and International seafood standards enables them to identify the best Seafood quality assurance system.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	VI	ZOOPA368(3)((P)	Post Harvest Technology

On successful completion of this practical course, the student will be able to;
CO 1: Learner will be able to prepare dried, cured and smoked fish products.
CO 2: Will be able to prepare various fish products and by-products.
CO 3: Will apply the product and process specifications when processing fish.
CO 4: Will identify hazards and ensure safety at Critical control points.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	II	ZOODT12(SDC)	DAIRY TECHNOLOGY

By 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
CO 6: Entrepreneurship i.e., Effectively market dairy products

CO 7: Ensure safe and clean dairy farm and Standard safety measures to be taken in establishing am industry
CO 8: Efficiently start and manage to establish or develop a Dairy Industry

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	III	ZOOPF23(SDC)	Poultry Farming

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 4: know about feed management, various diseases occur in poultry industry and their management and also about product harvesting.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Sc (BZC)	III	ZOOHH23 (LSC)	Health and Hygiene

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

Department of Commerce (General)

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 statement, 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 course like CA, CMA & CS.
CO 5: Students will be ready for employment in functional areas of accounting.

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 statement, 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 course 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;
CO 1: Understand the organizational hierarchy and outlines of functioning
CO 2: Comprehend the role of office secretary ship in a small and medium organization
CO 3: 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;
CO 1: Understand the organizational hierarchy and outlines of functioning
CO 2: Comprehend the role of office secretary ship 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.Com(GENERAL)	I	COM111BENV	BUSINESS ENVIRONMENT

At the end of the course, the student will able to;
CO 1: Understand the concept of 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 course 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)	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, concession
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**	**Com356EWD**	**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 ACCOUNTING

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
CO 4: prepare financial statements for partnership on dissolution of the firm.
C**O 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:
CO1: 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
CO 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 (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;
CO 1: Understand the field level structure and functioning of insurance sector and its 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)	V	COM352HRM	Human resource management

At the end of the course student will:
CO 1: Contribute to the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes.
CO 2: Administer and contribute to the design and evaluation of the performance management program
CO 3: Develop, implement, and evaluate employee orientation, training and development programs
CO4: Facilitate and support effective employee and labour relations in both non-union and union environments
CO 5: Research and support the development and communication of the organizations total compensation plan.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com (COMPUTERS)	**V**	**COM352HRM**	**Human resource management**

At the end of the course student will:
CO 1: Contribute to the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes.
CO 2: Administer and contribute to the design and evaluation of the performance management program
CO 3: Develop, implement, and evaluate employee orientation, training and development programs
CO4: Facilitate and support effective employee and labour relations in both non-union and union environments
CO 5: Research and support the development and communication of the organizations total compensation plan.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com (GENERAL, COMPUTERS)	**V**	**COM353MKT**	**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)	V	Com356EWD	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,) BBA	**V**	**COM356FM**	**FINANCIAL MARKETS**

At the end of the course student will:

CO 1: Describe the different components of a financial system and their role.

CO 2: Explain the recent developments in the Indian financial system.

CO 3: Describe the instruments particulars and operations of the money market.

CO 4: Describe the methods of issuing shares and role of intermediaries in the primary market.

CO 5: list the various speculators and describe the speculative activities.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(GENERAL,) BBA	**V**	**COM356ACA**	**ADVANCED CORPORATE ACCOUNTING**

At the end of the course student will:

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) BBA	V	COM355MS	MARKETING OF SERVICES

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

CO 1: Demonstrate an extended understanding of the similarities and differences in service-based and physical product-based marketing activities;
CO 2: Demonstrate a knowledge of the extended marketing mix for services;
CO 3: Develop and justify marketing planning and control systems appropriate to service-based activities;
CO 4: Demonstrate integrative knowledge of marketing issues associated with service productivity, perceived quality, customer satisfaction and loyalty
CO 5: Exhibit the capability to work effectively within a team environment

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com GENERAL	VI	COM365SMO	STOCK MARKET OPERATIONS

At the end of the course student will:
CO 1: The basic tradeoff 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(GENERAL, COMPUTERS)	VI		FINANCIAL MANAGEMENT

At the end of the course student will:

CO 1: Demonstrate the applicability of the concept of Financial Management to understand the managerial Decisions and Corporate Capital Structure
CO 2: Apply the Leverage and EBIT EPS Analysis associate with Financial Data in the corporate
CO 3: Analyse the complexities associated with management of cost of funds in the capital Structure
CO 4: Demonstrate how the concepts of financial management and investment, financing and dividend policy decisions could integrate while identification and resolution of problems pertaining to LSCM Sector
CO 5: Demonstrate how risk is assessed

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com GENERAL	VI	COM363CG	COMMERCIAL GEOGRAPHY

At the end of the course student will:
CO 1: The causes of pollution and its effects ,internal structure of earth, realms of earth ,causes and effects of global warming
CO 2: Land use-soils-major crops-food and non food crops-importance of agriculture-problems in agriculture-agriculture development.
CO 3: Status of forests in Andhra Pradesh-forest conservation act-1980-compensatory afforest ration fund bill, 2015-forest rights act, 2006and its relevance- need for protection of forestry
CO 4: Renewable and non renewable resources –use of minerals-mines-coal, barites, etc
CO 5: Rationality and equitable use of water-protection measures-rivers-perennial and peninsular rivers- interlinking of rivers-experience of India and Andhra Pradesh

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com COMPUTERS	VI	COM363CG	COMMERCIAL GEO GRAPHY

At the end of the course student will:
CO1: The causes of pollution and its effects ,internal structure of earth, realms of earth, causes and effects of global warming
CO2: Land use-soils-major crops-food and non food crops-importance of agriculture-problems in agriculture-agriculture development.
CO3: Status of forests in Andhra Pradesh-forest conservation act-1980-compensatory afforest ration fund bill, 2015-forest rights act,2006and its relevance- need for protection of forestry
CO4: Renewable and non renewable resources –use of minerals-mines-coal, barites, ets
CO5: Rationality and equitable use of water-protection measures-rivers-perennial and peninsular rivers- interlinking of rivers-experience of India and Andhra Pradesh

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.com(GENERAL, COMPUTERS)	VI	COM364AUD	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 the 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.

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(GENERAL)	**VI**	**COM364AUD**	**EMERGING AREAS IN ACCOUNTING**

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

CO 1: Understand the meaning-definition-scope-objectives-importance-limitations-methods of valuing Human Resources-Historical Cost- Replacement Cost-Opportunity Cost-Present Value of future Earnings Models of Human Resource Accounting-HRA in India
CO 2: Understand the rationale for Social Accounting-Qualitative and quantitative social accounting disclosures-Evaluation of social accounting reports.
CO 3: Understand the Limitations of Historical Cost basis of Financial Statements – and the Evolution of Inflation Accounting-Constant-rupee accounting-International standards for hyper inflationary accounting through solving problems
CO 4: Understand the Concept of Environmental Accounting-Qualitative and Quantitative Environmental accounting disclosures-Evaluation of Environmental accounting reports-Green Accounting-and the implementation of the Green Accounting in Indian Corporate
CO 5: To gain the basic understanding of the Special Areas in Accounting like Intrinsic Value Accounting – Resource Consumption Accounting – Forensic Accounting – Fund Accounting – Hedge Accounting

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(GENERAL)	**VI**	**COM365MKT**	**GLOBAL MARKETING**

At the end of the course student will:
CO 1: the students will be able to have basic knowledge about global marketing meaning, classification of foreign markets and tariff and non-tariff barriers.
CO 2: students understand about parameters for market choice decision various modes of entry into foreign market
CO 3: Learn how to develop product/service/branding policies, pricing practices, and distribution approaches internationally and globally
CO 4: Learn how to assess the social/cultural, economic/financial, political/regulatory, and technological/infrastructure environments of different countries and how to adjust a company's marketing practices based on these factors
CO 5: Students will be able to know about foreign agents' identification selection motivation and control process

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com (GENERAL)	VI	COM366AM	ADVERTISING AND MEDIA MANAGEMENT

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

CO 1: Determine, analyse 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)	VI	COM362FM	FINANCIAL MANAGEMENT

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

CO 1: Demonstrate the applicability of the concept of Financial Management to understand the managerial Decisions and Corporate Capital Structure
CO 2: Apply the Leverage and EBIT EPS Analysis associate with Financial Data in the corporate
CO 3: Analyse the complexities associated with management of cost of funds in the capital Structure
CO 4: Demonstrate how the concepts of financial management and investment, financing and dividend policy decisions could integrate while identification and resolution of problems pertaining to LSCM Sector
CO 5: Demonstrate how risk is assessed

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com(COMPUTERS)	VI	COM362FM	FINANCIAL MANAGEMENT

On completion of this course, the students will be able to:
CO 1: Demonstrate the applicability of the concept of Financial Management to understand the managerial Decisions and Corporate Capital Structure
CO 2: Apply the Leverage and EBIT EPS Analysis associate with Financial Data in the corporate
CO 3: Analyse the complexities associated with management of cost of funds in the capital Structure
CO 4: Demonstrate how the concepts of financial management and investment, financing and dividend policy decisions could integrate while identification and resolution of problems pertaining to LSCM Sector
CO 5: Demonstrate how risk is assessed

PROGRAM	SEMESTER	COURSE CODE	COURSE NAME
B.Com (COMPUTERS)	VI	COM361MA	MANAGEMENT ACCOUNTING

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: Student 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.

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 able to;

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 camera. Students will learn how the colour theory works.

CO 2: Students will able to analyse visual message in six different perspectives like Personal, Historical, Technical, Ethical, Cultural and Critical.

CO 3: Students will able to create Ideas for Visual ads, TV ads etc.

CO 4: Students will 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 Photography

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 ideation, 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 to;

CO 1: To develop critical thinking 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 postproduction filmmaking 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 to;

CO 1: Learn how 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 Presonous 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 the 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**	VIS233PJ	Print Journalism (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 genre within newspaper.

CO 4: Acquire knowledge on role of print media in developed countries.

CO 5: Gain understanding on 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**	VIS234TP	Television Production - 1 (T)

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

CO 1: Communicate effectively through film and television 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 to;

CO 1: Identify an issue and argue from certain 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 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 able to;

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 while 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 able to;

CO 1: Understand the concept of 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 able to;

CO 1: Student will learn to approach to a company for internship.

CO 2: Student 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 teleprompter.

CO 2: Be aware of vocal delivery.

CO 3: Learn approaches to anchoring in different situation.

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 Communication

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: Analyse 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 Media)	**V**	VIS353IMC	Integrated Marketing Communication

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

CO 1: Apply the key terms, definitions, and concepts used in integrated marketing 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 IMC 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 IMC 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 able to;

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 to;

CO 1: Students will able to learn, prepare to produce a documentary.

CO 2: Students will 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 able to learn how post-production of a documentary works.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**V**	VIS356DT	Dissertation

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

CO 1: Choose a study topic and investigate it.

CO 2: Apply an appropriate research design and associated methods rigorously.

CO 3: Gather, organize, and evaluate information from research studies.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**V**	VIS357AAD	Advanced Advertising

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

CO 1: To acquire knowledge about Advertising Film Making.

CO 2: To strengthen the knowledge on concept, model and theories of Advertising and Film Making.

CO 3: To develop content using the features in Advertising Film Making.

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**VI**	VIS361FP	Final Project

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

CO 1: Students will do their major project in different specialized areas like

Short fiction film making

Documentary film Making

Ad film making

Single Camera Production

Digital News Production

Program	Semester	Course Code	Course Name
B.Sc (Vis Comm & E Media)	**VI**	VIS362INT	Internship

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

CO 1: Explore career alternatives prior to graduation.

CO 2: Integrate theory and practice.

CO 3: Assess interests and abilities in their field of study.

CO 4: Learn to appreciate work and its function in the economy.

CO 5: Develop work habits and attitudes necessary for job success.

CO 6: Develop communication, interpersonal and other critical skills in the job interview process.

CO 7: Build a record of work experience.

CO 8: Acquire employment contacts leading directly to a full-time job following graduation from college.

CO 9: Identify, write down, and carry out performance objectives (mutually agreed upon by the employer, the MCC experiential learning supervisor, and the student) related to their job assignment.

Department of Business Administration

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. (L1 &L2)
CO 2: To Understand the relative impact of elements Management Functions- both Planning and Decision making. (L1&L2)
CO 3: To Interpret the repercussions of Organizing Function in business organizing. (L3)
CO 4: To Illustrate the challenges and the implications of Directing Function in business organization. (L3)
CO 5: To make the student well acquainted with the concept of Controlling function. (L2 & L 3)

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 able to identify transactions and events that need to be recorded in the books of accounts.

CO 2: Students can equip with the knowledge of accounting process and preparation of final accounts of sole trader.

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 news papers 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 frame work 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 Criticise 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 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 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: Distil 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 behaviour 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
acquaint the role and importance, various policies and practices of human resources management. (L1 & L 2)
CO 2: To impart the knowledge about concept of human resource planning, its objectives and process of human resource planning and also the job analysis. (L1 & L 2)
CO 3: To understand the concept of recruitment and selection and its process and principles of placement and overview about induction procedure. (L1 & L 2)
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. (L2 & L 3)
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. (L2|& L 3)

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	3	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 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	BBA351BL	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	5	BBA 351LSM	Logistics and Supply Chain Management

CO 1: Develop a sound understanding of the important role of supply chain management in today's business environment

CO 2: Become familiar with current supply chain management trends Understand and apply the current supply chain theories, practices and concepts utilizing case problems and problem-based learning situations

CO 3: Learn to use and apply computer-based supply chain optimization tools including the use of selected state of the art supply chain software suites currently used in business

CO 4: Develop and utilize critical management skills such as negotiating, working effectively within a diverse business environment, ethical decision making and use of information technology

CO 5: Demonstrate the use of effective written and oral communications, critical thinking, team building and presentation skills as applied to business problems

CO 6: Successfully complete a year-long team research or case project concluding with a written and oral presentation of the findings

Program	Semester	Course Code	Course Name
BBA	5	BBA351IB	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	5	BBA351TXT	Taxation

CO 1: Students can learn Basic concept: Income agricultural income Person Assesses assessment year previous year gross total income total income.
CO 2: Analysis of Problem solving Salaries Allowances Perquisites Profit in lieu of salary Gratuity Pension Income from house property Annual Value of House property.
CO 3: Determine the business or profession: Computation Allowable expenses and not allowable expenses General deductions.
CO 4: Determining the Capital gains: Capital Assets Long term and Short term Transfers Cost of acquisition Cost of improvement
CO 5: Define and analysing Total income and tax computation: Income of other persons included in Assesses total income Aggregation of income and set-off and carry forward of losses

Program	Semester	Course Code	Course Name
BBA	5	BBA351BM	Brand Management

By successfully completion of the course, student will be able to
CO 1: Demonstrate knowledge of the nature and processes of branding and brand management.
CO 2: Evaluate the scope of brand management activity across the overall organisational context and analyze how it relates to other business areas.
CO 3: Appraise the key issues in managing a brand portfolio and making strategic brand decisions.
CO 4: Formulate and justify brand development decisions
CO 5: Analyze and discuss contemporary brand related problems and develop appropriate strategies and initiatives.

Program	Semester	Course Code	Course Name
BBA	5	BBA356TD	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	5	BBA355GHRM	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	6	BBA362BS	Business Strategy

After successful completion of this course, the students are able to

CO 1: Integrating the knowledge gained in functional areas of Management
CO 2: Helping the students to learn about the process of Strategic Management
CO 3: Helping the students to learn about Strategy Formulation and Implementation
CO 4: Determining Functional Strategies: Marketing, production/operations and R&D plans and Polices
CO 5: Strategy Evaluation- Overview of strategic evaluation; strategic control

Program	Semester	Course Code	Course Name
BBA	6	BBA367MSE	Micro, Small and Medium Enterprises Management

On completion of this course, the students 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	6	BBA363PEM	Project Evaluation and Management

On completion of this course, the students will be able to:
CO 1: Understand project characteristics and various stages of a project.
CO 2: Understand the conceptual clarity about project organization and feasibility analyses – Market, Technical, Financial and Economic. Execution Control.
CO 3: Analyze the learning and understand techniques for Project planning, scheduling and
CO 4: Apply the risk management plan and analyse the role of stakeholders.
CO 5: Understand the contract management, Project Procurement, Service level Agreements and productivity.

CO 6: Understand the How Subcontract Administration and Control are practiced in the Industry.

Program	Semester	Course Code	Course Name
BBA	6	BBA364MW	Warehouse Management

On completion of this course, the students will be able to:
CO 1: evaluating and describing proper and safe warehouse operations and techniques
CO 2: evaluating the changing role of warehouse operations within the supply chain
CO 3: comparing operational warehouse processes using terminology, concepts and methods
CO 3: illustrating the proper receiving, shipping and storage of inventory
CO 4:critiquing the operational equipment and technology used in warehousing explaining the cost benefit analysis of various warehouse functions
CO 5: defending how effective warehousing techniques can provide superior customer service and a competitive advantage
CO 6: categorizing warehouse layouts and defending how they may optimize warehouse functions

Program	Semester	Course Code	Course Name
BBA	6	BBA361SDM	Sales and Distribution Management

By successfully completion of the course, student will be able to
CO 1: It includes the familiarization of the concept , nature & scope, objectives and functions of sales management. It also emphasises the students upon interface of sales with different functions , theories of selling its marketing mix, trends and challenges .
CO 2: it indulges knowledge to students upon methods and procedural steps in forecasting the sales and prospecting for customers. It provides with the information about the upon various modes , designing and delivery of sales presentation.
CO 3: It teaches students upon how to plan the manpower requirements and also the recruitment and selection of personnel .
CO 4: It indulges knowledge the students about the role of distribution management in marketing mix and also provides an overview of marketing channels.
CO 5: it provides information about the role and types of channel intermediaries , wholesaling and the various types of wholesalers.

Program	Semester	Course Code	Course Name
BBA	6	BBA366IR	Industrial Relations

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 money market, its different types and its functioning.

Program	Semester	Course Code	Course Name
BBA	6	BBA365TM	Talent Management

By the end of the course the student should be able to:
CO 1: Understand and explain talent Management practices in India and Global level.
CO 2: Understand and explain How to Acquire and retain talent.
CO 3: Understand the interplay between various aspects of Talent Acquisition, retention and development of talent.
CO 4: Understand and appreciate the role manager to manage talent
CO 5: Develop the competence required to work effectively by Star employees
CO 6: Appreciate the organizational context and apply relevant contemporary organizational practices to connect the talent
CO 7: Differentiate between the various challenges and issues to manage young talented employees.
CO 8: Analyze and appreciate the role of HR Manager

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 gases 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 intermolecular 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 behaviour 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)	VI	CHE356IPC	Inorganic and Physical Chemistry

At the end of the course student will
CO 1: Analyze the compounds based on the structural changes and reactivity.
CO 2: Predict the geometry of inorganic compounds
CO 3: Evaluate the sodium and potassium ion pumping in producing nerve impulse
CO 4: Interpret the compounds by applying laws of photo chemistry.
CO 5: Evaluate the thermodynamic parameters using modern tools of mathematics.

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	VI	CHE367AMGC	Analytical methods of chemistry and Green Chemistry

At the end of the course student will be able to
CO 1: Apply separation and purification of chemical and industrial processes

CO 2: Demonstrate the process of chromatography

CO 3: Understand the importance of various polymers in daily life

CO 4: Gain insight on the action of enzymes as biocatalysts

CO 5: Understand the importance of green method of chemical synthesis

Program	Semester	Course Code	Course Name

B.Sc., (MPC, BZC, MBC, MFC)	VI	CHE368C1OSC	Organic Spectroscopy and Chemistry of Natural products

At the end of the course student will be able to
CO 1: Interpret IR spectroscopic peaks for identifying functional groups
CO2: Predict the fragmentation patterns expected in mass spectroscopy
CO3: Predict the number of proton NMR signals expected for a given compound
CO4: Learn basic concepts involved in structural elucidation by traditional methods
CO5: Understand the importance of synthesis of natural products

Program	**Semester**	**Course Code**	**Course Name**
B.Sc., (MPC, BZC, MBC, MFC)	VI	CHE368C2MPOS	Mechanism and Principles of Organic Chemistry

At the end of the course student will be able to
CO 1: Apply the mechanistic pathways of organic addition and elimination reactions.
CO 2: Acquire an idea about the mechanistic pathway of various substitution reactions.
CO 3 : Understand how organic reaction intermediates can be generated and reacted
CO 4 : Interpret the different approaches of oxidation reaction
CO 5: Attain basic knowledge about various regents used in organic chemistry

Program	**Semester**	**Course Code**	**Course Name**
B.Sc., (MPC, BZC, MBC, MFC)	VI	CHE368C3PQC	Pesticides ,pharmaceutical and quantum Chemistry

At the end of the course student will be able to:
CO 1: Understand operator algebra and application of Schrödinger wave equation
CO 2: Distinguish types of pesticides based on their properties and their effects
CO 3: Understand classification of drugs on the basis of structure and therapeutic action
CO 4: Compute delocalization energy of allyl systems
CO 5: Apply basic concepts of research and its methodologies

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: Aquire 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)	VI	CHE368CISOC(P)	Synthesis of Organic compounds

At the end of the course student will be able to
CO 1: Independently use water condenser and distillation techniques in preparing organic compounds
CO 2: Get hands on training in use of vacuum pump for separation of organic compound
CO 3: Test the yield of the compound

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	VI	CHE367AM(P)	Analytical methods

At the end of the course student will be able to
CO 1: Estimate the hardness of water samples
CO 2: Separate and identify amino acids using paper chromatography
CO 3: Prepare inorganic complexes

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	VI	CHE368C2GMP(P)	Green methods of Organic Preparations

At the end of the course student will be able to
CO 1: Use alternative green method to detect extra elements
CO 2: Identify eco friendly chemicals in place of havoc chemicals
CO 3: Test the purity of the compound

Program	Semester	Course Code	Course Name
B.Sc., (MPC, BZC, MBC, MFC)	VI	CHE368C3DCC(P)	Drugs, Dyes and Computational Chemistry

At the end of the course student will be able to

CO 1: Know the various technology and safety aspects for reactions.
CO 2: Analyze the various methods for synthesis of different intermediates used in dyes
CO 3: To identify the substrates and chemistry to synthesize desired product

Department of Artificial Intelligence

Program	Semester	Course Code	Course Name
B. Sc., ArtificialIntelligence	I	CS111PC	PROGRAMMING USING 'C'

On 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., Artificial Intelligence	I	CS111PC (P)	PROGRAMMING USING 'C'

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. C
CO 2: **Write** the C code for a given algorithm.
CO 3: Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.
CO 4: Write programs that perform operations using derived data types.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	I	CS112APP	APPLICATION BASED PROGRAMMING IN PYTHON

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

CO 1: Write, Test and Debug Python Programs

CO 2: Implement Conditionals and Loops for Python Programs
CO 3: Use functions and represent Compound data using Lists, Tuples and Dictionaries
CO 4: Read and write data from & to files in Python and develop Application using Py-game

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	I	CS112APP(P)	PYTHON PROGRAMMING LAB

On successful completion of this practical course, the student will be able to:
CO 1: Describe the core syntax and semantics of Python programming language
CO 2: Work with the control flow statements
CO 3: discover the need for working with the strings and functions
CO 4: Illustrates the process of structuring the data using 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
CO 6: understand object oriented programming concepts

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	II	CS223AIML	Introduction to AI & ML

At the end of the course student will
CO 1: Understand the Artificial Intelligence Concepts.
CO 2: Also Understand the Machine Learning.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	II	CS224DBMS	DATABASE MANAGEMENT SYSTEMS

A**t the end of the course student will**
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., Artificial Intelligence	III	CS235ICT	INFORMATION COMMUNICATION TECHNOLOGY (ICT)

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

CO 1: Explain how a computer works, including but not limited to hardware, network, and services.
CO 2: Understanding the internet applications
CO 3: Explain how computers are networked, and the protocols that govern internet and application communication.
CO 4: Explain basic runs issues regarding computer operating systems and networks.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	III	CS235ICT(P)	HTML LAB

On successful completion of this practical course, the student will be able to:
CO 1: Describe the function of Hypertext Mark-up Language (HTML) in Web communications.
CO 2: Identify a Universal Resource Locator (URL) in a segment of HTML code.
CO 3: Describe the basics of the Domain Name System (DNS) used on the Internet and private networks.
CO 4: Define the terms "presentational" and "semantic" mean in the context of HTML coding.
CO 5: Describe the role played by hosting services on the Web.
CO 6: Describe how the widespread use of different web browsers can affect the decisions made by a web-master or the author of a site.
CO 7: Identify software that can be used to create, maintain, or modify HTML.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	III	CS235ICT(P)	APPLIED MACHINE LEARNING (AML)

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

CO 1: Gain knowledge about basic concepts of Machine Learning
CO 2: Identify machine learning techniques suitable for a given problem
CO 3: Solve the problems using various machine learning techniques
CO 4: Apply Dimensionality reduction techniques.
CO 5: Design application using machine learning techniques.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	III	CS236SML(P)	SML LAB

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

CO 1: Understand the implementation procedures for the machine learning algorithms
CO 2: Design Java/Python programs for various Learning algorithms.
CO 3: Apply appropriate data sets to the Machine Learning algorithms
CO 4: Identify and apply Machine Learning algorithms to solve real world problems

Program	Semester	Course Code	Course Name

B. Sc., Artificial Intelligence	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., Artificial Intelligence	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 to developing packages & Interfaces in Java: Package, concept of CLASS PATH, access modifiers, importing package, Defining and implementing interfaces.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	IV	CS28TML	Theoretical Machine Learning

At the end of the course student will
CO 1: Machine learning studies automatic methods for learning to make accurate predictions or useful decisions based on past observations.
CO 2: This course introduces theoretical machine learning, including mathematical models of machine learning, and the design and rigorous analysis of learning algorithms.
CO 3: Likely topics include: bounds on the number of random examples needed to learn; learning from non-random examples in the on-line learning model; 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., Artificial Intelligence	IV	CS29SML	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 modelling and be able to use them for classification and regression.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	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., Artificial Intelligence	V	CS35XIND	INTRODUCTION TO NEURAL NETWORKS AND DEEP LEARNING

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

CO 1: Describe the feed-forward and deep networks.
CO 2: Design single and multi-layer feed-forward deep networks and tune various hyper-parameters.
CO 3: Implement deep neural networks to solve a problem.
CO 4: Analyse performance of deep networks.
CO 5: Understand the characteristics and types of artificial neural network and remember working of biological Neuron and Artificial Neural Network.
CO 6: Apply different types of auto encoders with dimensionality reduction and regularization.
CO 7: Design Convolution Neural Network and classification using Convolutional Neural Network.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	V	CS35XIND(P)	NEWRAL NETWORKS LAB

On successful completion of the course, students will be able to;
CO 1: Understand the characteristics and types of artificial neural network and remember woking with perceptron and custom neural networks
CO 2: Understand the use of prediction with linear filter and function approximations.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	V	CS35XIIOS	OPERATING SYSTEMS

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

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.
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 and 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., Artificial Intelligence	V	CS35XIIOS(P)	UNIX LAB

On successful completion of this practical course, the student will be able to
CO 1: Run various UNIX commands under Ubuntu Linux environment.
CO 2: Do shell programming in Ubuntu OS using terminal.
CO 3: Learn working with directories.
CO 4: Work with Unix Basic commands.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	V	CS35XIIINLP	NATURAL LANGUAGE PROCESSING (NLP)

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

CO 1: Show sensitivity to linguistic phenomena and an ability to model them with formal grammars

CO 2: Understand and carry out proper experimental methodology for training and evaluating empirical NLP systems

CO 3: Able to manipulate probabilities, construct statistical models over strings and trees, and estimate parameters using supervised and unsupervised training methods.

CO 4: Able to design, implement, and analyze NLP algorithms

CO 5: Able to design different language modelling Techniques.

Program	Semester	Course Code	Course Name

B. Sc., Artificial Intelligence	V	CS35XIIINLP(P)	NLP LAB

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

CO 1: Natural Language is the language written or spoken by humans in their daily life. Natural Language Processing is an interdisciplinary field dealing with human-computer interaction and computer aided processing of human language. It combines major concepts from computer science, artificial intelligence, and linguistics.
CO 2: The objective of Natural Language Processing lab is to introduce the students with the basics of NLP which will empower them for developing advanced NLP tools and solving practical problems in the field.
CO 3: The experiments in this lab are arranged in a logical sequence to inculcate a new concept at every step, starting from very basic ones to advanced ones.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	V	CS35XIVDS	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., Artificial Intelligence	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 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 trouble shooting.

Program	Semester	Course Code	Course Name

B. Sc., Artificial Intelligence	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 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., Artificial Intelligence	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 behavioural patterns

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	I	FOU111ICT	INFORMATION COMMUNICATION 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., Artificial Intelligence	I	SDC112AIP	AI WITH PYTHON

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

CO 1: Have a good understanding of the fundamental issues and challenges of machine learning: data, model selection, model complexity, etc.

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	V	SDC121DL	DEEP LEARNING AI

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

CO 1: Understand neural networks and different types of neural networks

CO 2: Understand Convolutional Neural Networks Architectures

CO 3: Understand Recurrent Neural Networks

CO 4: Understand Applications of Deep Learning to Computer Vision

VI	**INTERNSHIP**

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	II	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 Look up Functions

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	I	CC111AIE	AI FOR EVERY ONE

On successful completion of the course, students will be able to;
CO 1: how to build a sustainable AI strategy
CO 2: AI technologies and spot opportunities to apply AI to problems
CO 3: how AI is impacting society
CO 4: how to navigate through this technological change

Program	Semester	Course Code	Course Name
B. Sc., Artificial Intelligence	II	CC121CPP	OBJECT ORIENTED PROGRAMMING USING C++

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

CO 1: Articulate the principles of object-oriented problem solving and programming.
CO 2: Outline the essential features and elements of the C++ programming language.
CO 3: Explain programming fundamentals, including statement and control flow and recursion.
CO 4: Apply the concepts of class, method, constructor, instance, data abstraction, function abstraction, inheritance, overriding, overloading, and polymorphism.
CO 5: Program using objects and data abstraction, class, and methods in function abstraction.

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. C0 **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 SYSTEMS

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 to 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 system 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 model 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
CO 2: Protect documents
CO 3: Protect Databases
CO 4: Setting Credentials
CO 5: 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 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 trouble shooting.

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 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., 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 behavioural patterns

VI	**INTERNSHIP**

Program	Semester	Course Code	Course Name
B. Sc., Big Data Analytics	I	FOU111ICT	INFORMATION COMMUNICATION 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 Look up 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.

DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT

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 economic role of agriculture in 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 a biotic 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 plant, 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 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	CC111MSP	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	SDC111VC	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, albedo
CO 3: Atmospheric humidity, concept of saturation, vapour 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 Taxoomy
CO 5: Classification of class Insectaupto 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	CC121ZBNF	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

DEPARTMENT OF HOTEL MANAGEMENT

Program	Semester	Course code	Course Name
B. Sc., Hotel Management	I	HM111HK	HOUSE KEEPING

By successful completion of the course, students will be able to;
CO 1: The subject aims to establish the importance of House Keeping 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	HM111CK	**Cookery & Kitchen**

By successful completion of the course, students will be able to;
CO 1: Food Production is an integral part of the Hospitality Industry.
CO 2: To prepare the students to cater to the need of the industry,
CO 3: It is important to inculcate in them sound knowledge of the principles of Food Production so that they can be put to use in an efficient & effective way.
CO 4: Gets knowledge on Principles of food storage

Program	Semester	Course code	Course Name
B. Sc., **Hotel Management**	I	HM111FP(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 equipments.
CO 2: Develop skill in handling situations in 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 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 Equipment's used at front office and
CO 3: Get knowledge in necessary to successfully Frond 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 travelling
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 able to;
CO 1: To learn about the Housekeeping Supervision.
CO 2: Understand the importance of linen in housekeeping department
CO 3: To know the types of Linen, cleaning supplies 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 in practical.
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 courses 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 in practical.
CO 2: Get knowledge on beverage equipments.
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 consider in all aspects of Accounting fundamentals.
CO 5: Learn how to control of 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: Analyse 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 environment, the goods and services of a healthy biodiversity, dependence of humans on environment.
CO 3: Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.
CO 4: Discuss the laws/ acts made by government to prevent pollution, to protect biodiversity and environment as a whole.
CO 5: Acquaint with international agreements and national movements, and realize citizen's role in protecting 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: Analyse 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 PREPARATION

By successful completion of the course, students will be able to;
CO 1: This course develops the knowledge and understanding of the international cuisine amongst students.
CO 2: To impart knowledge on 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 in practical.
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 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 through understanding of the managerial principals 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 ends to establish the importance of accommodation management with in the hospitality industry.
CO 2: It equips the student to acquire knowledge & skills.
CO 3: To planning & designing aspects 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	CARGO 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 importance of Sales and marketing in 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 tourism industry as an alternative career path.
CO 3: Acquire knowledge on 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**	**POL111**	**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	POL122	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 analyses 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 analyse and evaluate the existing systems.

Program	Semester	Course code	Course Name
BA	III	POL233	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: Analyse 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	POL244	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 the Indian politics , challenges faced and gain a sensitive comprehension to the Contributive Factors.

Program	Semester	Course code	Course Name
BA	IV	POL245	WESTERN POLITICAL THOUGHT

On successful completion of the course the students will be able to:
CO 1: Understand the fundamental contours 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 interms of its purposes and role.
Acquaint with the Liberal and Marxist philosophy and analyse some trends in western political thought.
CO 3: Critically analyse the Evolution of Western Political Thought.

Program	Semester	Course code	Course Name
BA	V	POL355	INDIAN POLITICAL THOUGHT

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

CO 1: Helping the students in accruing 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	VI	POL367B	PRINCIPLES OF PUBLIC ADMINISTRATION

This paper tries to explain Administration and Public Policy
CO 1: This course aims to familiarise 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

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	I	TEL 111 PTK	Pracheena Telugu Kavithyam

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

CO 1: ప్రాచీన తెలుగు సాహిత్యం యొక్క ప్రాచీనతను, విశిష్టతను గుర్తిస్తారు. తెలుగు సాహిత్యంలో ఆదికవి నన్నయ కాలంనాటి భాషాసంస్కృతులను, ఇతిహాసకాలం నాటి రాజనీతి విషయాలపట్ల పరిజ్ఞానాన్ని సంపాదించగలరు.

CO 2: ప్రబంధ కాలంనాటి మతపరిస్థితులను, భాషా విశేషాలను గ్రహిస్తారు. వర్ణనలు, తెలుగు నుడికారం, సామెతలు, లోకోక్తులు మొదలైన భాషాంశాల పట్ల పరిజ్ఞానాన్ని, శ్లేషాలంకార ప్రీయత్వం పొందగలరు.

CO 3: తిక్కన భారతంనాటి మత, ధార్మిక పరిస్థితులను, తిక్కన కవితా శిల్పాన్ని, నాటకీయతను అవగాహన చేసుకోగలరు.

CO 4: శ్రీనాథుని కాలం నాటి కవితావిశేషాలను, మొల్ల కవితా విశిష్టతను గుర్తించగలరు. ఇతిహాస కవిత్వం లోని విభిన్న రీతులపట్ల అభిరుచిని పొందగలరు.

CO 5: తెలుగు పద్యం స్వరూప-స్వభావాలను, సాహిత్యాభిరుచిని పెంపొందించుకుంటారు. ప్రాచీన కావ్యభాషలోని వ్యాకరణాంశాలను అధ్యయనం చేయడం ద్వారా భాషా సామర్థ్యాన్ని, రచనలో మెలకువలను గ్రహించగలరు.

CO 6: ఛందో అలంకార పరిజ్ఞానం వలన పద్య పరిపుష్టి సమగ్రంగా ఉంటుంది

Program	Semester	Course Code	Course Name
B.A, B.Com & B.Sc	II	TEL 122 ATS	Adhunika Telugu Sahithyam

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

CO 1: ఆంగ్లభాష ప్రభావం కారణంగా తెలుగులో వచ్చిన ఆధునిక సాహిత్యాన్ని, దాని విశిష్టతను గుర్తిస్తారు.

CO 2: సమకాలీన ఆధునిక సాహిత్య ప్రక్రియలైన ‘‘వచన కవిత్వం, కథ, నవల, నాటకం, విమర్శ’’ లపై అవగాహన పొందుతారు.

CO 3: భావకవిత, అభ్యుదయ కవితాలక్ష్యాలను గూర్చిన జ్ఞానాన్ని పొందుతారు. అస్తిత్వవాద ఉద్యమాల పుట్టుకను, ఆవశ్యకతను గుర్తిస్తారు.

CO 4: కథా సాహిత్యం ద్వారా సామాజిక చైతన్యాన్ని పొందుతారు. సిద్ధాంతాల ద్వారా కాకుండా,

వాస్తవ పరిస్థితులను తెలుసుకోవడం ద్వారా సిద్ధాంతాన్ని సమీక్షించగలరు.

CO 5: ఆధునిక తెలుగు కల్పనాసాహిత్యం ద్వారా సామాజిక, సాంస్కృతిక, రాజకీయ చైతన్యాన్ని పొందుతారు.

CO6: సమకాలీన ఆధునిక సాహిత్యం పట్ల విమర్శ నాత్మక వైకరి సామర్థ్యాన్ని పెంపొందించుకుంటారు.

Program	**Semester**	**Course Code**	**Course Name**
B.A, B.Com & B.Sc	III & IV	TEL 233 PPP	Poetry, Prose and Prosody

ఈ కోర్సు విజయవంతంగా ముగించాక**,** విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు**.**

CO 1: దాతృత్వం, త్యాగం మరియు అంకిత భావాలు పుణికి పుచ్చుకున్నాటారు.

CO 2: ఎంతటి గొప్పవారైనా కాల పరీక్ష ముందు తల వంచ వలసిందే అనే విషయాన్ని గ్రహిస్తాడు.

CO 3: తాడిత పీడిత అణగారిన వర్గాల హక్కులకోసం చైతన్యాన్ని పొందుతారు.

CO4: స్త్రీ స్వేచ్ఛ, స్వతంత్రా లను, సమాన హక్కులను పెంపొందించు కొనడానికి చక్కని అవగాహన పెంపొందించు కుంటారు.

CO 5: మాతృభాష మీద మమకారాన్ని, ప్రేమని అభిమానాన్ని ఏర్పరచుకున్నాడు.

CO 6: మంచి నడవడిక విధానాన్ని తల్లిదండ్రుల పట్ల సమాజం పట్ల బాధ్యతాయుతమైన పౌరునిగా తనను తాను మలచుకున్నాడు.

CO 7: సామాజిక ఆర్థిక రాజకీయ సాంస్కృతిక అంశాల మీద విస్తృతమైన అవగాహన పెంపొందించు కుంటారు.

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 and professional 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 16^{th} century to the late 20^{th} 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 artefacts 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 and theory
CO4: Summarize the important studies and basic 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 SOCIOLINGUISTICS

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 perspective
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 able to
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.