1.1.1- **Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which are reflected in Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) of the various Programmes offered by the Institution.**

The curricula developed have relevance to the regional/national/global developmental needs with well-defined learning objectives and outcomes at programme and course level. The department and the institute are guided and monitored in the preparation of course curriculum by two bodies, namely Board ofStudies and Academic Council and typically undergoes with the following: The Institute follows the guidelines issued by the regulatory bodies such as UGC, AICTE, affiliated university JNTUA, Anatapuram and Andhra Pradesh State Council of Higher Education (APSCHE) while designing the curricula. A series of all faculty meetings are conducted in correlation to the statedProgramme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs). The set of courses which require modifications (deletion/addition) are prepared and programme curricula adopted at other leading academic institutes in India and abroad are compared.

The Institute hosts reunion meets of Alumni. During such meets the institute takes the initiative of eliciting their views and suggestions in respect of required changes in curriculum. Several Memoranda of Understandings (MoUs) with local and national industries relevant to programs have been signed to make students acceptable at local, national and global level. In order to have right mix of curriculum, pedagogy and assessment to achieve the desired course and program outcomes, curriculum development and approval involves deliberations at various levels through relevant committees such as Department Advisory Board, Program Assessment Committee and Board of Studies.

For the effective design of curriculum structure feedback is collected from students, faculty, alumni, parents and employers. Also by conducting workshops, seminars and conferences periodically, faculties get an opportunity to interact with the academic and industrial experts which helps to design the curriculum more effectively. The recommendations of these committees are put up to Board of Studies with detailed programme structure, curricula and syllabi and further recommendations of BoS are put up for the approval of Academic Council.

The Institute introduced Choice Based Credit System (CBCS) and selflearning courses using MOOCs platform through SWAYAM, Coursera and some industry offered courses for undergraduate programmes and utilizes Learning Management System (LMS) for effective learning process. Value added courses to enhance communication, employability and entrepreneurship skills are included in the curriculum. Internship and live projects are also undertaken by students to enhance employability. The Institute established Centre for Innovation, andEntrepreneurship (CIIE) that helps in developing entrepreneurshipskills among the students through their interaction with successfulentrepreneurs and other related bodies. The Institute encourages thefaculty and students to work in emerging areas by involving localindustry. Curriculum revision is a continuous process with respectto elective and laboratory courses as per the need of the industryand regulatory bodies from time to time even though the normal cycleof revision is 3 years.

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Department of Computer Science and Engineering

PROGRAMME OBJECTIVEs
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO-5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO-6: TheEngineerandSociety Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO-7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO-8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO-9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO-10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write

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effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO-11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO-12: 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.

PROGRAM SPECIFIC OUTCOMES

PSO 1: Problem Solving Skills: Ability to design and develop computing tools with moderate complexity in the areas pertaining to database, data analytics, networking, web and app design, IoT and information security with integration.

PSO 2: Professional Skills: Ability to apply standard practices and methods in software project management and software development using suitable programming environments to deliver quality products to the industry.

R23 Subject wise Course Outcomes

Basic Civil & Mechanical Engineering

PART A: BASIC CIVIL ENGINEERING

CO 1: Understand various sub-divisions of Civil Engineering and to appreciate their role in ensuring better society and the basic characteristics of Construction Materials. CO 2: Gain knowledge regarding Structural and Geotechnical Engineering. CO 3: Explain the concepts of surveying and Transportation Engineering, Water Resources and Environmental Engineering.

PART B: BASIC MECHANICAL ENGINEERING

CO 1: Understand the different manufacturing processes. CO 2: Explain the basics of thermal engineering and its applications. CO 3: Describe the working of different mechanical power transmission systems and power plants and describe the basics of robotics and its applications.

Engineering Graphics:

CO 1:Draw various engineering curves, scales.
CO 2:Draw and Interpret orthographic projections of points, lines, planes.
 CO 3:Draw the projection of solids in various positions.

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CO 4:Draw and Explore the sections of solids and development of surfaces.
CO 5:Draw an isometric and orthographic views of simple solids.

ENGINEERING PHYSICS:
CO 1: Understand the intensity variation of light due to interference, diffraction and polarization.
CO 2: Apply the basic concepts of crystal structures and X-ray diffraction to study the behavior of materials for engineering applications.
CO 3: Summarize the fundamental properties of dielectric and magnetic materials for engineering applications.
CO 4: Analyze the properties of quantum particles to interpret the energy band formation and classification of solids
CO 5: Assess the current flow mechanism to understand the transport phenomenon of charge carriers in semiconductors.

INTRODUCTION TO PROGRAMMING:
CO 1: Solve computational problems.
CO 2: Select the features of C language appropriate for solving a problem.
CO 3: Design computer programs for real world problems.
CO 4: Organize the data which is more appropriated for solving a problem.
CO 5: Understanding the basic concept of structures and file handling.

LINEAR ALGEBRA & CALCULUS:
CO 1: Understanding the concepts of matrix algebra techniques to solve the system of linear equations. CO 2: Develop the use of matrix algebra techniques that is needed by engineers for practical applications.
CO 3: Apply mean value theorems to solve real life problems in engineering.
CO 4: Make use of partial differentiation to solve optimization problems.
CO 5: Familiarize with double and triple integrals of functions of several variables in two dimensions using Cartesian and polar coordinates and in three dimensions using cylindrical and spherical coordinates.

(CS23AES102) COMPUTER PROGRAMMING LAB

COURSE OUTCOMES:
After successful completion of the course, students will be able to:
CO 1: Read, understand and trace the execution of programs written in C language.
CO 2: Select the right control structure for solving the problem.
CO 3: Develop C programs which utilize the memory efficiently using programming constructs like pointers.
CO 4: Develop, Debug and Execute programs to demonstrate the applications of arrays, functions, basic concepts of pointers in C.

(PH23ABS102) ENGINEERING PHYSICS LAB

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COURSE OUTCOMES:
After successful completion of the course, students will be able to:
CO 1: Compare the wavelengths of different colours using diffraction grating.
CO 2: Utilize optical instruments like travelling microscope and spectrometer.
CO 3: Analyze the intensity of the magnetic field of circular coil carrying current with distance.
CO 4: Evaluate dielectric constant for a dielectric material.
CO 5: Estimate the band gap of a given semiconductor and the type of semiconductor using Hall effect.

(ME23AES103) ENGINEERING WORKSHOP
COURSE OUTCOMES:
After successful completion of the course, students will be able to:
CO 1: Fabricate sheet metal components manually.
CO 2: Construct wood joints such as half-lap, mortise, and tenon.
CO 3: Assemble the components to create joints like a V-fit.
CO 4: Demonstrate the plumbing, welding, foundry, and fitting jobs to form the components.
CO 5: Connect &Check the basic house wiring circuit connections for various applications.

(CS23AES103) IT WORKSHOP
COURSE OUTCOMES:
After successful completion of the course, students will be able to:
CO 1: Perform Hardware troubleshooting.
CO 2: Understand Hardware components and inter dependencies.
CO 3: Safeguard computer systems from viruses/worms.
CO 4: Document/ Presentation preparation.
CO 5: Perform calculations using spreadsheets

HEALTH AND WELLNESS, YOGA AND SPORTS:
CO 1: Understand the importance of yoga and sports for Physical fitness and sound health.
CO 2: Demonstrate an understanding of health-related fitness components.
CO 3: Compare and contrast various activities that help enhance their health.
CO 4: Assess current personal fitness levels.
 CO 5: Develop Positive Personality.
BASIC ELECTRICAL & ELECTRONICS ENGINEERING
PART A: BASIC ELECTRICAL ENGINEERING
CO 1: Apply the knowledge of theorems/laws to analyze the simple AC and DC circuits.
CO 2: Illustrate the operating principles of various electrical machines and electrical measuring equipment's.
CO 3: Understand the basic concepts of electrical power generation, Electricity Bill and Safety Measures

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PART B: BASIC ELECTRONICS ENGINEERING:
CO 1: Apply the concept of science and mathematics to understand the working principles of electronic devices.
 CO 2: Analyze the working principle of a DC power supply system and Amplifiers.
CO 3: Solve digital logic circuits and implement using different logic gates.
COMMUNICATIVE ENGLISH:
CO 1: Understand the context, topic, and pieces of specific information from socialor Transactional dialogues.
 CO 2: Apply grammatical structures to formulate and correct word forms.
 CO 3: Analyze discourse markers to speak clearly on a specific topic in informal discussions.
CO 4: Evaluate reading/listening texts and write summaries based on global comprehension of these texts.
 CO 5: Create a coherent paragraph, essay, and resume.
DATA STRUCTURES:
CO 1: Analyze the problems using asymptotic notations.
CO 2: Apply Stack, Queues and linked list to solve different applications.
CO 3: Demonstrate suitable sorting techniques for the real world problem.
 CO 4: Implement tree structures in different patterns of representation of data.
 CO 5: Analyze the given problem using graph traversal techniques.
 DIFFERENTIAL EQUATIONS & VECTOR CALCULUS:
CO 1: Familiarize to solve the first and higher order differential equations.
 CO 2:Apply the knowledge of linear differential equations related to various engineering fields.
 CO 3: Identify solution methods for partial differential equations that model physical processes.
CO 4: Interpret the physical meaning of different operators such as gradient, curl and divergence.
CO 5:Evaluate the work done by force field, circulation and transformation between single, double and triple integrals using vector calculus.

CHEMISTRY:
CO 1: Understand Schrodinger Wave equation, MOT, energy level diagrams Apply the knowledge of linear differential equations related to various engineering fields.
CO 2:Apply the principle of Band diagrams in the application of conductors and semiconductors.
CO 3:Compare the materials for construction of a battery and electrochemical sensors.
 CO 4:Explain the preparation, properties, and applications of thermoplastics & thermosetting & elastomers conducting polymers.
CO 5:Explain the principles of spectrometry and separation of solid and liquid mixtures by chromatography
(EG23AHS102) COMMUNICATIVE ENGLISH LAB
COURSE OUTCOMES:
After successful completion of the course, students will be able to:

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CO 1: Understand the different aspects of the English language proficiency with an emphasis on LSRW skills.
CO 2: Apply communication skills through various language learning activities.
CO 3: Analyze the English speech sounds, stress, rhythm, intonation, and syllable division for better listening and speaking comprehension.
CO 4: Evaluate and exhibit professionalism in participating in debates and group discussions.
CO 5: Create effective Course Objectives.

(CS23APC202) DATA STRUCTURES LAB
COURSE OUTCOMES:
After successful completion of the course, students will be able to:
CO 1: Demonstrate the concept of Recursion for solving a problem.
CO 2: Choose and implement linear data structure to solve problems.
CO 3: Develop programs for searching and sorting algorithms.
CO 4: Select and implement suitable nonlinear data structure for solving a problem.

(CH23ABS102) CHEMISTRY LAB
COURSE OUTCOMES:
At the end of the course, the students will be able to:
CO 1: To verify Beer Lambert's law
CO 2: To analyse the IR and NMR spectra of some organic compounds
CO 3: To apply electro analytical techniques foe sample analysis.
CO 4: To measure the strength of an acid present in the samples.
CO 5: To prepare advanced polymer materials.

PART A: ELECTRICAL ENGINEERING LAB
COURSE OUTCOMES:
After successful completion of the course, students will be able to:
CO 1: Understand the concept of KCL, KVL and Theorems practically for the given circuit.
CO 2: Evaluate the resistance, power and power factor of circuit elements by using measuring instruments.
CO 3: Obtain the Magnetization Characteristics of DC shunt Generator

NSS/NCC/SCOUTS & GUIDES/COMMUNITY SERVICE:
CO 1: Understand the importance of discipline, character and service motto.
CO 2: Solve some societal issues by applying acquired knowledge, facts, and techniques.
CO 3:Explore human relationships by analyzing social problems.

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CO 4: Determine to extend their help for the fellow beings and downtrodden people.
CO 5:Develop leadership skills and civic responsibilities

R20 Subject wise Course Outcomes

(MA20ABS303) DISCRETE MATHEMATICS AND GRAPH THEORY
Course Outcomes:
At the end of this Course the student will be able to
• Apply mathematical concepts and logical reasoning to solve problems in different fields of Computer science and information technology (L3).

• Apply the properties of Set theory to find Equivalence and Partial Ordering relations and Hasse Diagrams for different functions (L3).

• Analyse the properties of Algebraic Structures to find the given sets are Semi group, Monoids and Groups (L4).

• Analyse the concepts of Generating and Recurrence relations for solving Homogeneous and In-Homogeneous equations (L4).

• Investigate the graphs are Isomorphic Graphs, Euler and Hamilton Graphs (L6).

(EC20AES301) DIGITAL ELECTRONICS & MICROPROCESSORS
Course Outcomes:

CO1: To understand the concept of Logic circuits and analyze various Boolean algebra functions.
CO2: To understand the concept of Combinational Logic and Sequential Logic Circuits.
CO3: To create combinational circuits using PLD's.
CO4: To understand and Analyze the counters,
CO5: To understand the concepts of 8085, 8086 Microprocessor and 8051 Microcontroller.
CO6: Apply knowledge and demonstrate programming proficiency using various addressing modes and instruction sets of 8086 & 8051

(CS20APC305) SOFTWARE ENGINEERING

Course Outcomes:
Student should be able to
• Obtain basic software life cycle activity skills(L1).

• Design software requirements specification for given problems.(L4)

• Implement structure, object oriented analysis and design for given problems.(L5)

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• Design test cases for given problems.(L4)

• Apply quality management concepts at the application level.(L3)

(CS20APC303) DATABASE MANAGEMENT SYSTEMS

Course Outcomes
Students will be able to
• Design a database for a real world information system (L6)

• Define transactions which preserve the integrity of the database (L1)

• Generate tables for a database (L4)

• Organize the data to prevent redundancy (L4)

• Pose queries to retrieve the information from database (L3)

(IT20APC301) PYTHON PROGRAMMING

Course Outcomes:
• Apply the features of Python language in various real applications (L3).

• Select appropriate core data structure of Python for solving a problem (L5).

• Design object-oriented programs using Python for solving real-world problems (L4).

• Apply modularity to programs (L3).

• Design graphics using turtle module (L4).

EC20AES302)DIGITAL ELECTRONICS & MICROPROCESSORSLAB
Course Outcomes:
After Completion of this course ,the student will be able to:
• Analyze the concepts of Logic Gates and Boolean functions.
• Analyze Combinational Logic and Sequential Logic Circuits.

• Analyze the logic circuits using Programmable Logic Devices.

• Apply knowledge and demonstrate programming proficiency using various addressing modes and instruction sets of 8086 & 8051.

(CS20APC304) DATABASE MANAGEMENT SYSTEMS LAB

Course Outcomes:

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At the end of the course, students will be able to
- Work with the concepts of DDL, DML, DCL Commands (L3).

• Design of databases for real life systems using Oracle (L5).

• Learning of SQL queries on the real-life systems (L4).

• Execution of PL/SQL programs for different problems (L6).

• Implementation of procedure, function, trigger and cursor concepts in PL/SQL (L4).

(IT20APC302) PYTHON PROGRAMMING LAB

Course outcomes:
Student should be able to
• Design solutions to mathematical problems (L6).
• Organize the data for solving the problem (L4).
• Develop Python programs for numerical and text-based problems (L6).
• Select appropriate programming construct for solving the problem (L5).
• Illustrate object-oriented concepts (L3).

(AM20ASC301) LINUX ADMINISTRATION (Skill Oriented Course)

Course Outcomes:
At the end of the course students will be able to:
● Understand shell script to create files and handle text documents. (L2)

● Analyze various methodologies in Linux administration. (L3)

● Implementation of IPC through shell programming in the Linux environment.(L5)

● Create child processes and background processes. (L5)

(CH20AMC201) ENVIRONMENTAL SCIENCE

Course Outcomes:
At the end of the course, the student will be able to
• Understanding multidisciplinary nature of environmental studies and various renewable and nonrenewable resources. (L2)
• Understand flow and bio-geo- chemical cycles and ecological pyramids. (L2)

• Understand various causes of pollution and solid waste management and related preventive measures. (L2)

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• Apply the rainwater harvesting, watershed management, ozone layer depletion and waste land reclamation. (L3)

• Apply the concepts of population explosion, value education and welfare programmes in society. (L3)

(EG20AMC302) ENHANCING ENGLISH LANGUAGE SKILLS

COURSE OUTCOMES
• Use English language, both written and spoken, competently and correctly.

• Improve comprehension and fluency of speech.

• Hone the communication skills to meet the challenges of their careers successfully.

• Gain confidence in using English in verbal situations.

• Strengthen communication skills in different contexts like formal and informal

(MA20ABS401) NUMERICAL METHODS, PROBABILITY AND STATISTICS

Course Outcomes:
At the end of this Course the student will be able to
• Apply different methods to find roots of algebraic and transcendental equations. (L3)
• Apply different methods to find approximate solution of ordinary differential equations
• and Numerical Integration. (L3)
• Analyse the concepts of probability and their applications. (L4)
• Apply discrete and continuous probability distributions in practical problems. (L3)
• Analyse the statistical inferential methods based on small and large sampling tests. (L4)

(CS20APC401) OBJECT ORIENTED PROGRAMMING THROUGH JAVA

Course Outcomes:
After completion of the course the student will be able
● To solve real world problems using OOP techniques (L3).

● To apply code reusability through inheritance, packages and interfaces(L3)

● To solve problems using java collection framework and I/O classes (L3).

● To develop applications by using parallel streams for better performance (L4).

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● To build GUIs and handle events generated by user interactions (L4).

(CS20APC301) COMPUTER ORGANIZATION AND ARCHITECTURE

Course Outcomes:
At end of the course the student will be able to
● Understand the computer organization concepts related to design of modern processors, memories and I/Os (L2)

● Identify the hardware requirements for cache memory and virtual memory (L2)

● Understand the importance and tradeoffs of different types of memories (L2)

● Design algorithms to exploit pipelining and multiprocessors (L4)

● Identify pipeline hazards and possible solutions to those hazards (L2)

(AM20APC301) DESIGN AND ANALYSIS OF ALGORITHMS

Course Outcomes:
• Analyze the complexity of the algorithms

• Make use of various design techniques like divide and conquer, greedy, dynamic programming, backtracking, branch and bound to solve the problems.

• Identify and analyze criteria and specifications appropriate to new problems, and choose the appropriate algorithmic design technique for their solution.

• Able to prove that a certain problem is NP-Complete.

(BA20AHS301) MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS

(BA20AHS302) BUSINESS ENVIRONMENT

(BA20AHS303) ORGANIZATIONAL BEHAVIOUR

(CS20APC402) OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB

Course Outcomes:

• Recognize the Java programming environment (L3).

• Select appropriate programming construct to solve a problem (L2).

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• Develop efficient programs using multithreading (L5).

• Design reliable programs using Java exception handling features (L3).

• Extend the programming functionality supported by Java (L4).

(CS20APC302) Computer Organization and Architecture Lab

Course outcomes:
- Understand various components of computer system.
- Design adder circuit using basic gates.
- Analyze arithmetic operation on binary.
- Analyze the behavior of logic gates

(AM20APC302) ALGORITHMS LAB
- ☐Apply the Divide andConquer strategy to solve searching, sorting problems.

• Analyze the efficiency of Greedy and Dynamic Programming design techniques to solve the optimizationproblems.

• Relate Backtracking technique for solving constraint satisfaction problems.

(IT20ASC401) EXPLORATORY DATA ANALYSIS WITH R
(Skill Oriented Course)

Course Outcomes:
• Install and use R for simple programming tasks (L3).

• Extract data from files and other sources and perform various data manipulation tasks on

them (L3).
• Explore statistical functions in R (L4).

• Use R Graphics and Tables to visualize results of various statistical operations on data (L3).

• Apply the knowledge of R gained to data Analytics for real-life applications (L3).

(CS20AMC401)DESIGN THINKING FOR INNOVATION (Mandatory Course)

Course Outcomes:
Student will be able to
• Generate and develop different design ideas.(L4)

• Appreciate the innovation and benefits of design thinking.(L3)

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• Experience the design thinking process in IT and agile software development.(L2)

• Understand design techniques related to variety of software services.(L2)

(MA20AMC401) ENGINEERING MATHEMATICS
Course Outcomes:
At the end of the course, the student will be able to
• • Develop the use of matrix algebra techniques that is needed by engineers for practical

applications (L6)
• • Utilize mean value theorems to real life problems (L3)

• • Solve the differential equations related to various engineering fields (L6)

• • Apply multiple integrals to find the area and volumes for different functions. (L3)

• • Estimate the work done against a field, circulation and flux using vector calculus (L6)

(CS20APC501) COMPUTER NETWORKS

Course Outcomes:
Upon completion of the course, the students should be able to:
● Identify the software and hardware components of a Computer network (L3)

● Develop new routing, and congestion control algorithms (L3)

● Assess critically the existing routing protocols (L5)

● Explain the functionality of each layer of a computer network (L2)

● Choose the appropriate transport protocol based on the application requirements (L3)

(CS20APC502)FORMAL LANGUAGES AND COMPILER DESIGN
Course Outcomes:
Students will be able to:
● Employ finite state machines to solve problems in computing and classify
● machines by their power to recognize languages. (L2)

● Understand the basic concept of compiler design, and its different phases

● which will be helpful to construct new tools like LEX, YACC, etc(L6)

● Ability to implement semantic rules into a parser that performs attribution

● while parsing and apply error detection and correction methods. (L3)

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● Apply the code optimization techniques to improve the space and time

● complexity of programs while programming. (L3)

● Ability to design a compiler for a concise programming language. (L3)

(CS20APC504) OPERATING SYSTEMS

Course Outcomes:
● Understand theOS design structures, its services and basics of a Process. (L2)

● Analyze various scheduling algorithms and examine concurrency mechanisms in Operating Systems. (L4)

● Apply memory management techniques in the design of operating systems. (L3)

● Compare and contrast various structures and organization of the file system and secondary storage structure. (L4)

● Apply different concepts of Protection and Security services in OS. (L3)

(CE20AOE501) Basics of Civil Engineering

Course Outcomes:
 After studying this course, students will be able to:
 • Understand various Civil Engineering in the overall infrastructural development

 • Identify various types of buildings

 • Understand the process of management of surveying

 • Apply various Modern construction materials

 • Obtain awareness on various Modern construction materials

(EC20AOE501) BASIC VLSI DESIGN
Course Outcomes:
CO1: Outline the processing steps in the fabrication of a nMOS, pMOS and CMOS structure.

CO2: Illustrate the Layout procedure of simple MOS circuit using Lambda based design rules.

CO3: Summarize the scaling effects of various key parameters of MOSFET devices.

CO4: Design various MOS based logic circuits.

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CO5: Develop algorithms for automatic test generation for combinational and sequential circuits.

(EE20AOE501) INTRODUCTION TO CONTROL SYSTEMS

Course Outcomes:
After completing the course, the student should be able to:
CO-1:Understand the concepts of control systems classification, feedback effect and Apply the concepts of Block diagram reduction, Signal flow graph
CO-2: Analyse time response analysis, error constants, and stability characteristics of a given mathematical model using different methods.
CO-3:Apply the concepts of RH and Root locus for stability calculations
CO-4: Analyze system behavior of the system in frequency domain. frequency response characteristics, Bode, Nyquist, Polar plots for stability calculations
CO-5: Analyze system behavior based on the state space analysis of that system. controllability and observability

(ME20AOE502) SOLAR AND WIND ENERGY SYSTEMS

Course Outcomes:
At the end of the course, the student will be able to
● **Explain** the basic concepts of solar radiation and solar collectors (L2)

● **Develop** sun path diagrams (L3)

● **Explain** the properties of a semiconductor (L2)

● **Apply** the principles of solar thermo photovoltaics (L3)

● **Utilize** different wind parameters for design of rotor (L3)

● **Make** use of power curve for energy estimation (L3)

(CS20APE501)Advanced Computer Architecture
Course Outcomes
● Realize Parallelism and Parallel architectures

● Ability to use Instruction Level Parallelism

● Ability to use Thread level parallelism.

● Understand the various models to achieve memory consistency.

● Understand the performance and efficiency in advanced multiple-issue processors.

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(CS20APE502)DATA WAREHOUSING AND DATA MINING
Course Outcomes:
Upon completion of the course, the students should be able to:
• Design a Data warehouse system and perform business analysis with OLAP tools. • Apply suitable pre-processing and visualization techniques for data analysis
• Apply frequent pattern and association rule mining techniques for data analysis
 • Apply appropriate classification and clustering techniques for data analysis

(CS20APE503)DIGITAL IMAGE PROCESSING
 Course Outcomes:
 • Interpret fundamental concepts of digital and color image processing.

 • Exemplify image enhancement.

 • Analyze the various terminologies involved in image segmentation like edge, boundary detection etc. Assess image compression techniques for digital images.

 • Summarize segmentation techniques for digital images.

(CS20APE504)OBJECT ORIENTED ANALYSIS DESIGN & TESTING

Course outcomes:
Upon completion of the course, the students should be able to:
•   Analyze the problem from object-oriented perspective (L4)

•   Model complex systems using UML Diagrams (L3)

•   Choose the suitable design patterns in software design (L5)

•   Adapt Object-Oriented Design Principles (L6)

•   Identify the challenges in testing object-oriented software. (L3)

(CS20APE505)Principles of Programming Languages
Course Outcomes
1. Acquire the skills for expressing syntax and semantics in formal notation
2. Identify and apply a suitable programming paradigm for a given computing application
3. Gain knowledge of and able to compare the features of various programming languages

(CS20APC503)Computer Networks Laboratory

Course outcomes:
Upon completion of the course, the students should be able to:
• Design scripts for Wired network simulation (L6)

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• Design scripts of static and mobile wireless networks simulation (L6)
• Analyze the data traffic using tools (L4)
• Design JAVA programs for client-server communication (L6)
• Construct a wired and wireless networks using the real hardware (L3)

(CS20APC505) OPERATING SYSTEMS LAB
Course Outcomes:
At the end of the course, students will be able to:
• Trace different CPU Scheduling algorithm. (L2)
• Implement Bankers Algorithms to Avoid and prevent the Dead Lock. (L3)
• Evaluate Page replacement algorithms. (L5)
• Illustrate the file organization techniques. (L4)
• Illustrate shared memory process. (L4)
• Design new scheduling algorithms. (L6)

(EG20ASC301) SOFTSKILL
Course Outcomes
• Apply the knowledge in setting the SMART goals and achieve the set goals

• Analyze difficult situations and solve the problems in stress-free environment

• Create trust among people and develop employability skills

(CH20AMC301) BIOLOGY FOR ENGINEERS

Course Outcomes:
After studying the course, the student will be able to:
Explain about cells and their structure and function. Different types of cells and basics for classification of living Organisms.
Explain about biomolecules, their structure and function and their role in the living organisms. How biomolecules are useful in Industry.
Briefly about human physiology.
Explain about genetic material, DNA, genes and RNA how they replicate, pass and preserve vital information in living Organisms.
Know about application of biological Principles in different technologies for the production of medicines and Pharmaceutical molecules through transgenic microbes, plants and animals.

(IT20AMC501) PROBLEM SOLVING AND PROGRAMMING FOR LE
Course Outcomes
• Solve computational problems (L3).
• Select the features of C language appropriate for solving a problem (L4)
• Design computer programs for real world problems (L6)

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    •   Organize the data which is more appropriated for solving a problem (L6).

(CS20APC601) Cryptography and Network Security
Course Outcomes:
Upon completion of the course, the students should be able to:
• Identify various type of vulnerabilities of a computer network (L2)
• Outline various security algorithms (L4)
• Design secure systems (L6)
• Investigate the threats and identify the solutions for threats (L4)

(CS20APC603) MACHINE LEARNING

Course Outcomes:
Up on completion of the course, the students should be able to:

• Identify machine learning techniques suitable for a given problem.(L3)

• Solve the real world problems using various machine learning techniques.(L6)

• Apply Dimensionality reduction techniques for data pre-processing.(L3)

• Explain what is learning and why it is essential in the design of intelligent machines .(L2)

• Implement Advanced learning models for language, vision, speech, decision making etc.(L1)

(CS20APC605)WEB AND INTERNET TECHNOLOGIES
Course Outcomes:
At the end of the course, the students should be able to:
• Construct a basic website using HTML and Cascading Style Sheets.(L3)
• Build dynamic web page with validation using Java Script objects and by
applying different event handling mechanisms.(L6)
• Develop server side programs using Servlets and JSP.(L3)
• Construct simple web pages in PHP and represent data in XML format. (L6)
• Utilize AJAX and web services to develop interactive web applications.(L3)

(CS20APE601)ARTIFICIAL INTELLIGENCE
Course outcomes:
Upon completion of the course, the students should be able to:
• Apply searching techniques for solving a problem (L3)
• Design Intelligent Agents (L6)
• Develop Natural Language Interface for Machines (L6)
• Design mini robots (L6)

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• Summarize past, present and future of Artificial Intelligence (L5)

(CS20APE602) BIG DATA ANALYTICS
Course Outcomes:

- Explain the concepts and challenges of big data (L2)

- Determine why existing technologies are inadequate to analyze the large data.

- Outline the operations viz. Collect, manage, store, query, and analyze various forms of big data. (L2)

- Apply large-scale analytic tools to solve some of the open big data problems.

- Analyze the impact of big data for business decisions and strategies.(L4)

- Design different big data applications. (L6)

(EE20AOE503) RENEWABLE ENERGY RESOURCES
Course Outcomes:
• Familiarize with basics of solar radiation, available solar energy and its
measurement & Familiarize with solar collectors, construction and operation
of solar collectors.
• Understand solar energy conversion systems, applications and power
generation &Familiarize the wind energy sources assessment
• To explain concept of various forms of renewable energy
• To outline division aspects and utilization of renewable energy sources for
both domestics and industrial applications
• To analyse the environmental and cost economics of using renewable energy
sources compared to fossil fuels

(CS20APC602) Cryptography and Network Security Lab
This course is designed to:
• Understand the different types of networks
• Discuss the software and hardware components of a network
• Enlighten the working of networking command supported by operating
system
• Impart knowledge of Network simulator2/3
• Familiarize the use of networking functionality supported by JAVA
• Familiarize with computer networking tools.

(CS20APC604)Machine Learning lab
Course Outcomes:

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After the completion of the course the student can able to:

1. understand complexity of Machine Learning algorithms and their limitations;
2. understand modern notions in data analysis-oriented computing;
3. be capable of confidently applying common Machine Learning algorithms in practice and implementing their own;
4. Be capable of performing experiments in Machine Learning using real-world data.

List of Experiments

(CS20APC606) WEB AND INTERNET TECHNOLOGIES LABORATORY
Course Outcomes:
• Ability to create dynamic and interactive web sites.
• Gain knowledge of client side scripting using java sript and DHTML.
• Demonstrate understanding of what is XML and how to parse and use XML data
• Able to do server side programming with Java Servelets, JSP and PHP.

(BA20AMC501) MANDATORYCOURSE: CONSTITUTION OF INDIA
Course Outcomes:-
• At the end of the course, students will be able to
• Understand historical background of the constitution making and its importance for Building a democratic India.
• Understand the functioning of three wings of the government ie., executive, legislative and judiciary.
• Understand the value of the fundamental rights and duties for becoming good citizen of India.
• Analyze the decentralization of power between central, state and local self government

(AM20AMC601) ARTIFICIAL INTELLIGENCE TOOLS TECHNIQUES & APPLICATIONS
Course Outcomes:
• At the end of the course, a student will be able to:
• Demonstrate various AI applications, languages and Intelligent Agents.
• Solve problems using search strategies and understand the basic process of Machine Learning.
• Apply classification and regression algorithms on real world data.
• Develop an expert system.
• Comprehend the structure of an artificial neural network and identify the

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- building blocks of a convolutional neural network.

(MA20AMC301) Logical Skills for Professionals-II
Course Outcomes (CO):
• Demonstrate knowledge basic mathematics to develop analytical skills to
solving problems of HCF, LCM Factors and Simplification.
• Demonstrate knowledge basic mathematics to develop analytical skills to
solving problems of Pipes, Alligation or Mixture.
• Demonstrate knowledge basic mathematics to develop analytical skills to
solving problems of Table, Bar Graphs and Pie Chart.
• Analyze the techniques in Syllogism.
• Analyze the techniques in Calendar, Clocks and Number Series Analogy
concepts.

(CS20APE701) BLOCK CHAIN TECHNOLOGIES
Course outcomes:
Upon completion of the course, the students should be able to:
• Create customized blockchain solutions (L6)
• Make use of the specific mechanics of Ethereum(L3)
• Experiment with Smart contracts (L3)
• Develop Enterprise applications using Blockchain(L6)

(CS20APE702) Data Science

Course Outcome:
• Ability to gain basic knowledge on data science
• Gain the insights from the data through statistical inferences
• Develop suitable models using machine learning techniques and to analyze
its performance
• Analyze on the performance of the model and the quality of the results
• R tool for data Analysis and visualize the results 6. Demonstrate problem
solving skills and provide solutions to real world problems

(CS20APE705) SERVICE ORIENTED ARCHITECTURE

Course Outcomes:
Students will be able to
• Build applications based on XML.
• Develop web services using technology elements.

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• Build SOA-based applications for intra-enterprise and inter-enterprise applications.

(CS20APE706) Cyber Security

Course Outcomes:
Upon completion of the course, the students should be able to:
• Illustrate the broad set of technical, social & political aspects of Cyber Security and security management methods to maintain security protection (L2)
• Assess the vulnerabilities and threats posed by criminals, terrorist and nation states to national infrastructure (L5)
• Identify the nature of secure software development and operating systems (L3)
• Demonstrate the role security management in cyber security defense (l2)
• Adapt the legal and social issues at play in developing solutions.(L6)

(CS20APE708) DEEPLEARNING

Course Outcomes:
- Applylinearalgebraandprobabilitytheoryinthedeeplearningapplications(L3)
- Elaborate the challenges and motivations to Deep learning(L6)
- Differentiate the architectures of deepener network(L4)
- Build a convolution a lneural network(L6)
- Build and train RNN and LSTMs (L6)

(CS20APE710) Software Project Management

Course Outcomes:
• Describe and determine the purpose and importance of project management from theperspectives of planning, tracking and completion of project.
• Compare and differentiate organization structures and project structures
• Implement a project to manage project schedule, expenses and resources with theapplication of suitable project management tools.

(CS20APE712) CLOUD COMPUTING
• Outline the procedure for Cloud deployment (L2)
• Distinguish different cloud service models and deployment models(L4)
• Compare different cloud services.(L5)
• Design applications for an organization which use cloud environment.

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(L6)

(CS20APE714) NATURAL LANGUAGE PROCESSING
• Build NLP applications using Python. (L6)
• Apply various Parsing techniques, Bayes Rule, Shannon game,
Entropy and Cross Entropy. (L3)
• Explain the fundamentals of CFG and parsers and mechanisms in
ATN's. (L2)
• Apply Semantic Interpretation and Language Modeling..(L3)
• Interpret Machine Translation and multilingual Information Retrieval
systems and Automatic Summarization.(L2)

(CE20AOE701) Air Pollution and Quality Control

Course Outcomes (CO):
After studying this course, students will be able to:
• Identify the major sources of air pollution
• Understand their effects on health and environment.
• Evaluate the dispersion of air pollutants in the atmosphere and to develop air
quality models.
• Choose and design control techniques for particulate and gaseous emissions.
• Understand the noise pollution and control method

PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)-MBA

PEO 1 -Students will establish themselves as effective professionals by solving real problems through the use of management science knowledge and with attention to teamwork, effective communication, critical thinking and problem solving skills.

PEO 2 -Students will develop professional skills that prepare them for immediate employment and for life-long learning in advanced areas of management and related fields.

PEO 3 - Students will demonstrate their ability to adapt to a rapidly changing environment by having learned and applied new skills and new competencies

PEO 4 - Students will be provided with an educational foundation that prepares them for excellence, leadership roles along diverse career paths with encouragement to professional ethics and active participation needed for a successful career.

PROGRAM SPECIFIC OBJECTIVES

PSO-1: Students will establish themselves as effective professionals by solving real problems through the use of management science knowledge and with attention to team work, effective communication, critical thinking and problem solving skills.

PSO-2: Students will develop professional skills that prepare them for immediate employment and for life-long learning in advanced areas of management and related fields.

PSO-3: Students will demonstrate their ability to adapt to a rapidly changing environment by having learned and applied new skills and new competencies.

PSO-4: Students will be provided with an educational foundation that prepares them for excellence, leadership roles along diverse career paths with encouragement to professional ethics and active participation needed for a successful career.

PROGRAM OUTCOMES

a. Equip with advanced business acumen that helps them to understand the key business functions and organizational resources for efficient business management.

b. Familiarize themselves with financial concepts, analysis and reporting systems.

c. Apply technology to enhance organizational efficiency and create innovative business solutions.

d. Identify customer needs and to participate in the process of developing products and services to meet their requirements.

e. Demonstrate the ability to analyze complex, unstructured qualitative and quantitative problems by collecting, analyzing data by using accounting, financial, mathematical, statistical tools, information and communication technologies to solve the complex business problems.

f. An ability to understand the impact of Managerial solutions in a global, economic, environmental, and societal context.

g. Familiarize with social responsibility issues that managers must address, including business ethics, cultural diversity, and environmental concerns.

h. An understanding of professional, ethical, legal, financial, marketing, sales, logistical security and social issues and responsibilities.

i. Acquire leadership skills, understand group and individual dynamics, and be able to work in teams.

j. An ability to communicate effectively, both in writing and orally.

k. Apply conceptual business foundations to solve practical decision-making problems, both individually and as part of teams using techniques such as case analysis, projects and assignments.

Exhibit business-related behavioral skills including leadership, interpersonal, communication (written and oral), team, and lifelong learning skills

MBA SEM-I
COURSE OUTCOMES

Management and Organizational Behaviour

CO1: Should be able to perform roles of managers

CO2: Should be implement principles of management

CO3: Should be able to optimize organizational resources

CO4: Should be able motivate employees in an organization.

CO5: Should be able to reduce conflicts & Increase productivity.

CO6: Should be able to understand group behaviour & Individual behaviour.

Business Environment and Law

CO1: Outline how an entity operates in a business environment

CO2: Explain the clear cut study of Monetary, Fiscal and EXIM Policy

CO3: Explain the effects of Law of Contracts 1872

CO4: Provide students with a background of update of the Company's Act 1956.

CO5: Provide students with a background of update of the IT Act 2000.

Managerial Economics

CO1: Should be able to perform roles of managerial economist and Demand Analysis

CO2: Should be able to understand Production and Break- Even Analysis

CO3: Should be implement principles of Market Analysis

CO4: Should be implement principles of pricing strategies

CO5: Should be able to handle the inflationary measures and Trade Cycles

Financial Accounting for Managers

CO1: Should be able to understand the different concepts in accounting

CO2: Should be implement principles of accounting.

CO3: Should be able to perform roles of accountant.

CO4: Should be implement methods to calculate deprecation and inventory valuation.

CO5: Should be able to perform as accountant.

CO6: Should be able to forecast financial future.

CO7: Should be able to access and analyse balance sheet.

Statistics for Managers

CO1: To familiarize the students with the statistical techniques.

CO2:   To develop the computational skill of the students.

CO3: To instill the managerial decision making capabilities in the students.

CO4: To enhance the analytical skills of students that helps them with sales projections.

Business Communication

CO1: To make student familiar with Channels of Communication

CO2: Students are able to understand types of Business Communication

CO3: Students are able to understand inter-personal Communication

CO4: To make students comfortable to understand Barriers of Communication

CO5: Students can understand how to write Report Writing

Information Technology for Managers

CO1: Ability to understand basic concepts of computer and acquires knowledge about information technology.

CO2: To understand the basic concepts, queries and the applications of database systems.

CO3: To apply Microsoft access, PowerPoint, word and excel applications to create personal, academic and business documents following current professional and/or industry standards.

CO4: To gain knowledge about data communication and networks and ability to configure a computer network logically.

Semester II

Course Objectives

Human Resource Management

CO1: Explain the importance of human resources and their effective management in organizations

CO2: Demonstrate a basic understanding of different tools used in forecasting and planning human resource needs

CO3: Describe the meanings of terminology and tools used in managing employees effectively

CO4: Record governmental regulations affecting employees and employers

CO5: Analyze the key issues related to administering the human elements such as motivation, compensation, appraisal, career planning, diversity, ethics, and training

Marketing Management

CO1: Use written formats to communicate marketing outcomes.

CO2:Analyze the relevance of marketing concepts and theories in evaluating the impacts of environmental changes on marketing planning, strategies and practices.

CO3: State the role and functions of marketing within a range of organizations.

CO4: Describe key marketing concepts, theories and techniques for analyzing a variety of marketing situations.

CO5: Demonstrate the ability to justify marketing strategies and advocate a strategically informed position when considering marketing plan implementation.

CO6: Manage themselves and members they work within a team when undertaking independent management study.

Business Research Methods

CO1: Should be able to take proper decisions based on collected information

CO2: Should be able to know about various methods of research

CO3: Should be able to know how to collect the data

CO4: Should be able to do Sampling and Survey research

CO5: Should be able to analyze the data statistically & give proper interpretations

CO6: Should be able to prepare the project reports

Financial Management

CO1: Should be able to understand the Need of finance in business

CO2: Should be implement principles of capital budgeting decisions in selection of proposals

CO3: Should be able to optimize share holders wealth for acquiring of cheaper source of capital

CO4: Should be able to understand the difference between operating profit and net profit

CO5: Should be able to forecast future estimated working capital according to demand

CO6: Should be able to assess the procedure of merging and distribution of shares

Operations Research

CO1: To provide the basic tools of operations research to students.

CO2: To enhance the mathematical approaching skill in management problems.

CO3: To develop problem solving &decision making skills that is useful in management of organizations

CO4: To solve the problems in defined steps, by mathematical analysis.

Operations Management

CO1: At the end of the course, a student will be able to:

CO2: Able to perform Production Planning.

CO3: Able to explain Production Controlling.

CO4: Able to focus on Plant Layout Types and their Suitability

CO5: Able to Managing Standard time of a work and Worker.

CO6: Able to Handle Materials Management Issues .

CO7: Able to draft Control Charts for Quality Management.

CO8: To Focus on Quality Management

Management Information Systems

CO1: Describe the role of information technology and information systems in business

CO2: Define the theoretical models used to construct databases

CO3: Develop an understanding of the principles and techniques used in the System Development Life Cycle

CO4: Describe the concepts and vocabulary of e-commerce security

CO5: To gain knowledge about ERP, big data and cloud computing

Semester III

Course Objectives

Innovation and Entrepreneurship Development

CO1: To know the significance of innovation and entrepreneurship.

CO2: To get clarity about institutions supporting business businesses.

CO3: To know the various aspects and phases of a project proposal.

CO4: To introduce the business model and business plan.

CO5: To learn about the challenges faced by women entrepreneurs.

Green Business Management

CO1: To know the significance of Green Business and its relevancy to 21st Century.

CO2: To understand Corporate structure and Corporate Environmental Responsibility.

CO3: To provide knowledge on Sustainable Development and Diversity

CO4: To introduce the Environmental Reports 1440.

CO5: To learn about Eco- friendly Designs and E- Commerce models.

Cost and Management Accountancy

CO1: To acquire knowledge and understanding of the concepts, techniques and practices of cost and management accounting

CO2: To develop Cost analytical skills for decision-making in Materials Control.

CO3: To know how to control Labour costs by Time-Keeping and Time Booking, efficiency Rating Procedures; Remuneration Systems and Incentive Schemes.

CO4: To Study the difference between management accounting and cost accounting and financial accounting.

CO5: To Analysis and Interpretation of Financial Statements and To practice the recent Trends in Presenting Financial Statements.

Product and Brand Management

CO1: To understand the classification of Products, Product Mix and Product Line.

CO2: To get insight about the new Product Development and Product Positioning Strategies.

CO3: To focus on the Brand loyalty, Brand Valuation and Brand Positioning.

CO4: To gain the knowledge of the brand equity and Brand extension.

CO5: To learn the Brands in banking sector, insurance sector and service sector.

Human Resource Development

CO1: To understand the significance of Human Resource Development.

CO2: To learn about the need of the Training and Development Programs.

CO3: To gain the knowledge of the implementation and evaluation of the HRD Programs.

CO4: To get knowledge on focusing on Career Development.

CO5: To get insight about diversity of culture and demographic changes.

Mobile Commerce

CO1: To provide knowledge on trends in Mobile Commerce with different electronic devices.

CO2: To learn about data base transactions access comprehensively.

CO3: To manage interactions between mobile application users and business men.

CO4: To get knowledge on Mobile Ticketing, computing and payment.

CO5: To understand the mobile commerce portals and their services.

FINANCIAL INSTITUTIONS AND SERVICES

CO1: To understand the role and functions of RBI

CO2: To enrich the knowledge of structure and performance of banking and non-banking institutions.

CO3: To equip the information of instruments in primary and secondary market.

CO4: To know about venture capital financing.

CO5: Become aware of challenges faced by the investment bankers.

CONSUMER BEHAVIOUR (BA20EPE308

CO1: understand consumers, market segments, strategies and psychological dimensions

CO2:To know economic demographic, cross culture, socio culture, reference group, family influence of consumer behaviour

CO3: Enumerate designing persuasive communication, diffusion of innovation and its models.

CO4: Familiarise the student with high and low involvement, brand loyalty and repeat purchase behavior of consumer

CO5: Become aware of consumer protection act 1986, consumer disputes redressal agencies and commission.

LABOR LAWS AND LEGISLATIONS

CO1. Develop a comprehensive understanding of the evolution of labor laws in India, exploring their significance, relevance to HRM, and implications within the legal framework.

CO2. Acquire an in-depth understanding of key legislations governing employment and working conditions in India.

CO3. Develop a comprehensive understanding of the legal provisions governing remuneration, to ensure adherence and fair practices in compensation management.

CO4. Gain an in-depth comprehension of laws concerning industrial relations, to effectively navigate and manage workplace dynamics while ensuring legal compliance and harmonious labor relations.

CO5. Develop a comprehensive understanding of laws pertaining to social security, to ensure effective implementation and compliance with provisions aimed at safeguarding employee welfare and security.

Supply Chain Management

CO1: Understand the role of distribution logistics in value discovery within the supply chain framework.

CO2: Identify core processes within an organization and evaluate whether they should be internally produced or outsourced to external suppliers.

CO3: Analyze the value addition potential of different distribution strategies, such as direct shipping, cross-docking, and consolidation centers.

CO4: Explore risk pooling strategies to mitigate supply chain uncertainty and reduce overall inventory costs through aggregation and centralized inventory management.

CO5: Evaluate the value of information in supply chain management, including its role in reducing the bullwhip effect, improving forecasting accuracy, and enhancing decision-making.

Investment and portfolio management

CO1: To understand the objectives of investment and process of investment.

CO2: To learn about the fundamental analysis and technical analysis.

CO3: To gain the knowledge of the classification of risk and risk factors.

CO4: To focus on the types of securities and valuation of securities.

CO5: To get insight about the process of portfolio management and portfolio models.

Retail Management

CO1: To provide a comprehensive overview of retail management, encompassing key concepts and practices.

CO2: To explore the critical factors and methodologies involved in selecting optimal retail store locations.

CO3: To delve into the principals and techniques of merchandise management and planning, aiming to optimize inventory assortment, pricing and allocation strategies

CO4: To examine the role of information technology and systems in retail with a focus on enhancing operational efficiency customer experience and decision making process within retail organizations.

CO5: To understand the dynamics of the Indian retail market and develop strategies to effectively meet consumer needs.

Performance Management

CO1: To Provide Knowledge on Performance management through different methods

CO2: To enable the students to understand the benefits of mentoring and Competency map

CO3: To understand the importance of Coaching and Counseling in Performance Management

CO4: To understand different performance methods for reward

CO5: To get comprehensive understanding on learning approaches and fringe benefits

Enterprise Resource Planning

CO1: To know the Fundamentals and Overview of Enterprise Resources Planning

CO2: To Know about the concepts of Data Mining and Data Warehousing

CO3: To understand the various modules of ERP this is used in Organization

CO4: To get clarity how to Implement Various ERP Modules in organization

CO5: To know the ERP Products and its Impact

MERGERS & ACQUISITION

CO1: Acquire conceptual knowledge in ethical issues of Mergers & Acquisition.

CO2: To Know about strategic approaches in value creation and merger negotiations.

CO3: To evaluate the defensive tactics and leverage buyouts.

CO4: Become aware of SEBI guidelines for takeovers, buyback of securities and ESOP.

CO5: To understand opportunities and threats of cross border Mergers & Acquisition.

ADVERTISING AND SALES PROMOTION MANAGEMENT

CO1: Should be able to understand   advertising strategies in different sectors. Should be able to understand the roles of ad managers.

CO2: Should be able to perform the functions of advertising agencies

CO3: Should be able to apply different pre-testing and post testing advertising methods.

CO4: Should be able to apply different sales promotion strategies.

CO5: Should be able to perform the roles of public relations officer. Should be able to understand the power of publicity.

KNOWLEDGE MANAGEMENT

CO1: To understand the design and the clear concepts of knowledge management

CO2: To equip the knowledge of life cycle of knowledge management in an organization

CO3: To have a clear understanding about the road map of knowledge management and information architecture

CO4: To entail basic knowledge of information technology in knowledge management systems.

CO5: To perceive the concept of knowledge management in manufacturing and service industry.

Data Ware Housing and Mining

CO1: To understand data mining and data ware housing concepts

CO2: To know the context of Data Ware House

CO3: To know the data ware house structures related to organization

CO4: To Analyzing the Contexts of the Data warehouse

CO5: To know how to Getting Data into the Data warehouse

Business Ethics and Corporate Governance

CO1: Should be in a position to differentiate Business ethics from General ethics

CO2: Will be in a position to make decisions out of ethical dilemma's

CO3: Will be aware of corporate governance philosophies, structure, Directors Role etc.

CO4: Will be having awareness over corporate social responsibility of organizations.

CO5: Will be in a position to combat frauds happening in workplace

Semester IV

Course Objectives

STRATEGIC MANAGEMENT

CO1: Should be in a position to differentiate strategic formation

CO2: Will be in a position to make decisions related to strategy implementation

CO3: Will be aware of Guidelines for proper control- Strategic surveillance -strategic audit etc.,

CO4: Will be having awareness over Strategy and Corporate Evaluation and feedback in the Indian and international context.

CO5: Will be in a position to implement the Tools and techniques

CO6: Will be in a position to perform the Strategic Management process

E- Business

CO1: Explore various electronic commerce models, including Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer-to-Consumer (C2C), and others, analyzing their characteristics and functionalities.

CO2: Analyze the role of digital signatures and digital certificates in ensuring the authenticity, integrity, and non-repudiation of electronic documents and transactions.

CO3: Explore the concept of money in the digital age, understanding its evolution from physical currency to electronic forms and its role in facilitating transactions in the modern economy.

CO4: Examine strategies for conducting business over the web, including e-commerce platforms, digital marketing tactics, and customer relationship management (CRM) approaches, to capitalize on online opportunities and maximize business growth.

CO5: Analyze strategies for managing e-business applications infrastructure, including cloud computing, virtualization, and scalability solutions, to accommodate dynamic business demands and ensure high performance.

Financial Derivatives:

CO1: To know the Uses of Derivatives Markets and Basic knowledge of Derivatives: understand the basic concepts of derivative markets and its principles, by equip himself and able to work on i

CO2: To get clarity about to know the structure of forward and Future Markets and Mechanics of forward markets: identify the significant role of forward market, Terms and structure of forward market. Determination of forward prices

CO3: To study the Principles of Option Pricing Options: Distinguish between Options and Futures, Structure of Options Market, Principles of Option Pricing, Option Pricing Models: The Binomial Model, The Black – Scholes Merton Model.

CO4: To know the Option Pricing Models: The Binomial Model, The Black – Scholes Merton Model and To make aware of Basic Option Strategies

CO5: To know the basics of using Swaps to Manage Risk, Pricing and Valuing Swaps and Swaps: Concept and Nature, Evolution of Swap Market, Features of Swaps

Services Marketing

CO1: Understand the differences between a service and physical product, characteristics of services, marketing mix adapted for services and Services in modern economy

CO2: Understand the importance of customer expectations in services segment, Types of expectations

CO3: Understand to establish pricing objectives, Pricing of services, and Pricing strategies and putting them into practice

CO4: Understand Marketing communication and marketing communication mix

CO5: Understand the marketing planning process related to services, formulation and implementation of marketing strategy

Organization development

CO1: To understand the importance of Values and Ethics in the development of Organisation

CO2: To know the significance of Wave Management and Organisation Transformation

CO3: To understand the action research as process and approach of Organisation Development

CO4: To bring comprehensive understanding on Team intervention and Behaviour Models

CO5: To able to understand the system ramification and power politics and future Organization Development

DATA COMMUNICATION AND NETWORK ANALYSIS (BA20EPE406)

CO1: To understand data communication network analysis, digital transmission, terminal handlines errors correction and coding.

CO2: To know simple protocols,virtual circuits and broadcasting algorithms

CO3: Become aware of flow control and buffering, synchronisation and internet work fragmentation.

CO4: Familiarise the student network security and privacy, data encryption, authentication and digital signature.

CO5: Enumerate ISDN, TCP/IP and networking and Internetworking derives.

International Financial Management

CO 1: To understand the nature and importance of International Financial Management and how it differs from Financial Management.

CO 2: To gain knowledge about how the foreign exchange market works.

CO 3: To have an insight into the management of foreign exchange exposure and risk.

CO 4: To understand the mechanism of cross-border investment decisions.

CO 5: To develop knowledge and skill towards financing decisions and working capital management of MNC's.
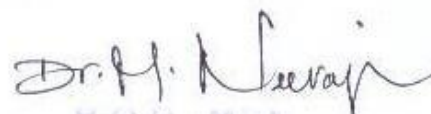
INTERNATIONAL MARKETING

CO1: Should be in a position to differentiate international and domestic marketing

CO2: Will be in a position to make decisions related to Indirect Exporting, Direct Exporting, Foreign Manufacturing Strategies

CO3: Will be aware of New products in International Market

CO4: Will be having awareness over Distribution Structures and Distribution Patterns

CO5: Will be in a position to Selecting Foreign Country Market intermediaries

CO6: Will be in a position to perform the Export Marketing

GLOBAL HUMAN RESOURCE MANAGEMENT

CO1: Should be able to differentiate between domestic and global human resource management

CO2: Should be able to understand different cross-cultural hofstede's dimensions and cultural issues.

CO3: Should be able to understand the different recruitment and selection process of ghrm. Should be able to learn compensation structure of ghrm

CO4: Should be able to understand the cross-cultural training and international training and development methods.

CO5: Should be able to analyze the industrial relations,trade unions and collective bargaining.Should be able to gain knowledge on participative management about USA-European countries and Asain countries-Middle east

Corporate Information Management

CO1: To provide knowledge on Information Technology and its application

CO2: To get knowledge on collaboration of innovation and business network

CO3: To ubnderstand the IT alignment and security and New Service Models

CO4: To get knowledge on IT outsourcing and collaboration and implementation of IT Policy

CO5: To analyze Project management, Technology Cycles and Role of Research and Development Policy.

Dr. M. Neeraja
H.O.D., MBA
S.V. COLLEGE OF ENGINEERING
Karakambadi Road, TIRUPATI-517 507