Course Outcomes

Academic Year – 2025-2026 **Semester: III (A)**

At the end of the course student will be able to

CO. No.	Description
Course Outcomes: English For Technical Communication (U24EN301)	
C31.1	Apply technical communication skills effectively.
C31.2	Adapt different types of official correspondence successfully.
C31.3	Construct report writing productively using various techniques.
C31.4	Develop the skills of manual writing adequately.
C31.5	Interpret the information transfer from verbal to non-verbal data and vice-versa completely.
CO. No.	**Description**
Course Outcomes: Digital Electronics and Computer Organization (U24EC304)	
C32.1	Demonstrate the number system conversions and simplify Boolean functions.
C32.2	Analyze and simplify Boolean expressions using Karnaugh-maps, tabulation method and design combinational circuits
C32.3	Analyze and design various Sequential circuits..
C32.4	To illustrate the operation of digital computer and to understand its organization.
C32.5	Understand the various memory types.
CO. No.	**Description**
Course Outcomes: Mathematics-III (Probability and Statistics) (U24MA301)	
C33.1	Determine Probability with respect to Random variables in Probability distribution
C33.2	compute the parameters of some standard discrete probability distribution, Normal distribution and moments
C33.3	Calculate the statistical parameters of uniform and exponential probability distribution
C33.4	Find the parameters related to correlation, regression and obtain the knowledge of sampling theory with context to test of hypothesis
C33.5	Analyze and check the validity of statement using testing of hypothesis for various parameters and goodness of fit
CO. No.	**Description**
Course Outcomes: Discrete Mathematics(U24CS301)	
C34.1	Distinguish between Propositional logic, deriving valid proofs of inference and
C34.2	Illustrate operations on sets, relations, functions and algebraic structures.
C34.3	Demonstrate basics of counting, principles of permutations, combinations, applying inclusion /exclusion principle and pigeonhole methodology in solving counting problems.
C34.4	Writing generating functions and recurrence relations and apply the techniques for
C34.5	Transform a problem in computer science and engineering as a graph and solve it

CO. No.	Description
Course Outcomes: Data Structures (U24CS302)	
C35.1	Classify data structures & algorithms and work with performance analysis.
C35.2	Develop stack and Queue ADT and work on their applications.
C35.3	Work with SLL and DLL and implement real world applications
C35.4	Analyze and implement Searching, Sorting and Hashing Techniques
C35.5	Create non-linear data structures and analyze traversal techniques of trees and graphs
CO. No.	**Description**
Course Outcomes: Soft Skills and Employability Skills Lab(U24EN3L1))	
C36.1	Utilize soft skills at professional level effectively.
C36.2	Function efficiently in multidisciplinary settings by using leadership skills.
C36.3	Build confidence through interpersonal skills utterly.
C36.4	Write Resume/CV and cover letter comprehensively.
C36.5	Enhance the skills of group discussion and interview perfectly.
CO. No.	**Description**
Course Outcomes: Digital Electronics Lab(U24EC3L4)	
C37.1	Demonstrate the truth table of various logic gates.
C37.2	Design, test and evaluate various combinational circuits such as adders, subtractors, comparators,
C37.3	Design, test and evaluate multiplexers and demultiplexers.
C37.4	Construct flips-flops, counters and shift registers
C37.5	Simulate full adder and up/down counters.
CO. No.	**Description**
Course Outcomes: Data Structures Lab(U24CS3L1)	
C38.1	Implement the linear data structures using arrays and linked lists.
C38.2	Implement the applications of Stacks.
C38.3	Write code to create Binary Search Trees, AVL Trees and perform standard operations
C38.4	Implement searching, sorting and hashing techniques and apply appropriate techniques for solving a given Problem
C38.5	Implement Tree and Graph Traversal Algorithms.

Course Outcomes

Academic Year – 2025-2026 **Semester: V (A)**

At the end of the course student will be able to

CO. No.	Description
Course Outcomes: Automata Theory, Languages and Computation (U23CS501)	
C51.1	Design a Finite Automaton and establish its correspondence with regular languages.
C51.2	Analyze Regular Expressions and Prove a given language is regular or not.
C51.3	Design Pushdown Automata for recognizing context-free languages and establish equivalence of language of PDA and CFG.
C51.4	Convert the given CFG into CNF and GNF
C51.5	Design Turing Machine for the given language and illustrate it's working and address their importance in computational Problems
CO. No.	**Description**
Course Outcomes: Design and Analysis of Algorithm (U23IT501)	
C52.1	Demonstrate the use of Asymptotic notations to find the efficiency of Algorithms.
C52.2	Apply Divide-and-Conquer and Transform-and-Conquer to Solve Real World Problem.
C52.3	Apply Greedy Approach and Dynamic Programming problem solving Techniques to solve real world problems.
C52.4	Analyze the Pattern Matching Algorithms and Distinguish P and NP Problems
C52.5	Apply and Analyze Backtracking and Branch and Bound approaches for solving real world problems
CO. No.	**Description**
Course Outcomes: Artificial Intelligence (U23CM502)	
C53.1	Understand the Intelligent agents and its characteristics.
C53.2	Apply the various search strategies and algorithms for problem solving..
C53.3	Analyze various logical reasoning techniques to infer knowledge and solve problems in knowledge-based systems.
C53.4	Explain the architecture of intelligent agents and describe the working of multi-agent systems.
C53.5	Analyze AI applications in NLP, IR, speech, and robotics systems.
CO. No.	**Description**
Course Outcomes: Full Stack Development (U23IT502)	
C54.1	Understand Full stack components for developing web application.
C54.2	Apply packages of NodeJS to work with Data, Files, Http Requests and Responses.
C54.3	Use MongoDB data base for storing and processing huge data and connects with NodeJS application.
C54.4	Design faster and effective single page applications using Express and Angular.
C54.5	Create interactive user interfaces with react components.

CO. No.	Description
Course Outcomes: Disaster Preparedness and Management (U23CE508)	
C55.1	Apply the concepts of disaster management to evaluate a disaster situation.
C55.2	Classify the various categories of disasters and their specific characteristics.
C55.3	Select appropriate pre-disaster, during disaster and post-disaster measures and framework
C55.4	Apply the geo informatics technology in disaster situation.
C55.5	To Recommend and identify the disaster management acts and frameworks specific to India relevant to a situation.
CO. No.	**Description**
Course Outcomes: Full Stack Development Lab (U23IT5L1)	
C56.1	Understand Full stack components for developing web application.
C56.2	Apply packages of NodeJS to work with Data, Files, Http Requests and Responses.
C56.3	Use MongoDB data base for storing and processing huge data and connects with NodeJS application.
C56.4	Design faster and effective single page applications using Express and Angular.
C56.5	Create interactive user interfaces with react components.
CO. No.	**Description**
Course Outcomes: Artificial Intelligence Lab (U23CM5L2)	
C57.1	Apply classic search algorithms like BFS and DFS to solve graph-based and real-world problems.
C57.2	Implement and simulate intelligent game-based problem-solving approaches such as Tic-Tac-Toe and the 8-Puzzle problem using Python.
C57.3	Develop Python solutions for constraint satisfaction problems like N-Queens and Tower of Hanoi using backtracking and recursion.
C57.4	Analyze classical AI problems (Water Jug, Monkey and Banana, Missionaries and Cannibals, Travelling Sales Man Problem) using state space search and problem-solving techniques.
C57.5	Apply and Compare machine learning models (Decision Tree, MLP, Naive Bayes, Linear Regression) for classification and regression using Python and scikit-learn.
CO. No.	**Description**
Course Outcomes: Internship (U23IT5P1)	
C58.1	Design and develop a small and simple product in hardware or software.
C58.2	Complete the task or realize a pre specified target, with a specified scope.
C58.3	Identify and evaluate the alternate viable solutions for a given problem with reference to the specified criteria
C58.4	Gives knowledge of working practices within industrial / R&D environments.
C58.5	Implement the selected solution and document the same.

CO. No.	Description
Course Outcomes: Aptitude and Reasoning (U23MA5L1)	
C59.1	Develop the ability to analyze and evaluate arguments and information critically.
C59.2	Enhance problem-solving skills through various reasoning techniques and methodologies.
C59.3	Improve numerical reasoning abilities, including calculations, data interpretation, and quantitative analysis.
C59.4	Strengthen verbal reasoning skills through reading comprehension, logical reasoning, and verbal analogy exercises.
C59.5	Develop skills to manage time efficiently while solving reasoning problems under timed conditions.

Course Outcomes

Academic Year – 2025-2026 **Semester: VII (A)**

At the end of the course student will be able to

CO. No.	Description
Course Outcomes: Embedded Systems & Internet of Things (U21IT701)	
C71.1	Understand the architecture, instruction set, and peripheral interfacing of 8-bit embedded processors.
C71.2	Interface I/O devices to the processor.
C71.3	Present the Internet of Things (IOT) progress.
C71.4	Use the Arduino, Raspberry Pi, and open platform, to construct a small, inexpensive embedded and Internet of Things system.
C71.5	Design and implement IoT-based embedded system solutions for real-world applications such as home automation, smart agriculture, smart cities, and smart healthcare.
CO. No.	**Description**
Course Outcomes: Big Data Analytics (U21IT702)	
C72.1	Demonstrate big data and use cases from selected business domains.
C72.2	Implement the knowledge of NoSQL big data management with Install, configure, and run Hadoop and HDFS.
C72.3	Apply the concept of Sharding and Map Reduce with the procedural approach
C72.4	Analyse map-reduce analytics using Hadoop.
C72.5	Apply big data and echo system techniques for real world
CO. No.	**Description**
Course Outcomes: Information Security (U21IT705)	
C73.1	Describe the steps in Security Systems development life cycle
C73.2	Analyze the common threats, legal and ethical issues.
C73.3	Identify security and risk management for business needs & use of security frameworks in preparing security blue print for an organization.
C73.4	Use of reactive solutions, firewalls, software and Intrusion Detection techniques.
C73.5	Use ethical hacking tools, secure communication protocols, technical and nontechnical security aspects
CO. No.	**Description**
Course Outcomes: Cloud Computing(U21IT707)	
C74.1	Understand the architecture and types of computing methods
C74.2	Explain cloud computing basics, services, and resource management techniques.
C74.3	Examine cloud architecture, application and migration processes.
C74.4	Evaluating cloud computing models IaaS, PaaS, and SaaS.
C74.5	Use cloud management software and enterprise application using Qwiklabs online platform

CO. No.	Description
Course Outcomes: Renewable Energy Resources (U21ME712)	
C75.1	Apply the classification and environmental analysis of energy resources to assess sustainability and policy relevance in the Indian context.
C75.2	Demonstrate fundamental principles of solar energy to evaluate solar thermal and photovoltaic applications, including government initiatives.
C75.3	Analyze the working principles, configurations, and applications of wind energy systems with respect to site and environmental factors.
C75.4	Evaluate ocean and geothermal energy systems for their efficiency, applications, and environmental benefits and limitations.
C75.5	Assess the feasibility and performance of biomass energy conversion technologies and biofuel production systems in the Indian context.
CO. No.	**Description**
Course Outcomes: Embedded Systems & Internet of Things Lab (U21IT7L1)	
C76.1	Demonstrate an understanding of various programming tools and express a passion for acquiring programming skills.
C76.2	Apply knowledge to design and develop complete embedded systems, including hardware, peripherals, and firmware.
C76.3	Write and implement code for various methods of interfacing devices in embedded systems.
C76.4	Develop and execute Python programs on the Raspberry Pi 4 for various applications.
C76.5	Apply techniques to interface sensors and actuators with the Raspberry Pi 4 for real world applications.
CO. No.	**Description**
Course Outcomes: Big Data Analytics Lab (U21IT7L2)	
C77.1	Understand and work with the Hadoop working environment
C77.2	Work with big data applications in multi node clusters
C77.3	Write scripts using Pig to solve real world problems
C77.4	Write queries using Hive to analyse the datasets
C77.5	Apply big data and echo system techniques for real world
CO. No.	**Description**
Course Outcomes: Project Phase-I (U21IT7P1)	
C78.1	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems.
C78.2	Evaluate different solutions based on economic and technical feasibility
C78.3	Effectively plan a project and confidently perform all aspects of project management.
C78.4	Demonstrate effective written and oral communication skills
C78.5	Prepare the documentation report and perform the presentation of the project work