Course Outcomes

Academic Year – 2022-2023 **Semester: IV (A)**

Student will be able to

CO. No.	Description
Course Outcomes: C42- Discrete Mathematics(U21CM401)	
C42.1	Distinguish between Propositional logic, deriving valid proofs of inference and checking the validity of inference.
C42.2	Illustrate operations on sets, relations, functions and algebraic structures.
C42.3	Demonstrate basics of counting, principles of permutations, combinations, applying inclusion /exclusion principle and pigeonhole methodology in solving counting problems.
C42.4	Writing generating functions and recurrence relations and apply the techniques for solving recurrence relations.
C42.5	Transform a problem in computer science and engineering as a graph and solve it efficiently using concepts of graph theory.
CO. No.	**Description**
Course Outcomes: C42 – Computer Organization and Microprocessor(U21IT401)	
C42.1	Describe the basic structure of computers and input - output organization
C42.2	Evaluate the performance of memories based on various parameters.
C42.3	Discuss the architecture, the instruction set and addressing modes of 8085 processor and write assembly language programs using 8085 instructions.
C42.4	Analyze the operation of Stacks, Subroutine, Interrupts of 8085 by using interfacing peripherals.
C42.5	Design the applications of interfacing circuits 8254/8253timer, A/D and D/A converter, Keyboard/Display controller with 8085 microprocessors.
CO. No.	**Description**
Course Outcomes: C43 – Database Management Systems(U21IT402)	
C43.1	Demonstrate ER models to represent simple database application scenarios and construct database queries using SQL
C43.2	Write Database queries using relational algebra and Calculus
C43.3	Recognize and identify the use of normalization and functional dependency in database design
C43.4	Apply the concept of database transaction and related concurrent recovery facilities
C43.5	Apply and relate how to evaluate a set of queries in query Processing
CO. No.	**Description**
Course Outcomes: C44 – Operating Systems(U21IT402)	
C44.1	Summarize the concepts and functions of operating systems
C44.2	Evaluate and compare the performance of CPU scheduling algorithms.
C44.3	Describe deadlock prevention and avoidance algorithms.
C44.4	Compare and contrast memory management strategies

C44.5	Demonstrate the functionality of Operating System and Perform administrative tasks on Linux severs

CO. No.	Description
Course Outcomes: C45 – Java Programming(U21CS402)	
C45.1	Describe the basics of OOP concepts and java programming.
C45.2	Implement the concept of interfaces and exceptional handling, how to solve real world problems.
C45.3	Create java applications by utilizing multi- threading and analyse collection framework classes.
C45.4	Design GUI applications using AWT and JDBC Connectivity.
C45.5	Explore Swing and apply the concept of servlets to solve programming problems.

CO. No.	Description
Course Outcomes: C46 – Microprocessor Lab(U21IT4L1)	
C46.1	Apply different addressing modes & model programs using 8085 Instruction set
C46.2	Develop logic building through programs
C46.3	Implement sorting Algorithms using 8085 processor
C46.4	Develop interfacing applications using 8085 processor
C46.5	Use the 8085 simulator tools on LCD display, DAC, ADC, peripheral devices.

CO. No.	Description
Course Outcomes: C47 – Database Management Systems Lab(U21IT4L2)	
C47.1	Design database schema for a given application and apply normalization
C47.2	Use SQL commands for data definition and data manipulation
C47.3	Demonstrate creation and usage of Views and Stored Procedures using SQL
C47.4	Develop solutions for database applications using procedures, cursors and triggers
C47.5	Design and built a simple database system demonstrate competence with the fundamental tasks involved with modelling, designing, and implementing a DBMS.

CO. No.	Description
Course Outcomes: C48 – Operating Systems Lab(U21IT4L3)	
C48.1	Execute UNIX commands and work with shell programming
C48.2	Analyze the operating system algorithms
C48.3	Implementing CPU scheduling algorithms
C48.4	Work with memory management and implement Page Replacement Algorithm
C48.5	Implement deadlock handling mechanism

CO. No.	Description
Course Outcomes: C49 – Java Programming Lab(U21CS4L1)	
C49.1	Develop Java applications using the concepts of Inheritance, interfaces, packages, access control specifier.
C49.2	Implement the concepts of Exception Handling in java Applications.
C49.3	Read and write data using different Java I/O streams.
C49.4	Create graphical user interfaces and Applets by applying the knowledge of Event Handling.
C49.5	Apply the knowledge of Event Handling.

Course Outcomes

Academic Year – 2022-2023 **Semester: VI (OU)**

Student will be able to

CO. No.	Description
Course Outcomes:C61 – Embedded Systems(PC601IT)	
C61.1	Demonstrate Embedded Systems and analyze the 8051 Architecture.
C61.2	Design and implement programs on 8051 and perform I/O interfacing.
C61.3	Apply knowledge to interface various sensors and its real-time applications in embedded systems.
C61.4	Analyze, real time systems using RTOS and develop applications.
C61.5	Apply the principles of SOC design.
CO. No.	**Description**
Course Outcomes:C62 – Design and Analysis of Algorithms(PC602IT)	
C62.1	Compute and analyze complexity of algorithms using asymptotic notations.
C62.2	Analyze and implement various classical Problem-Solving techniques like Divide-and-Conquer, Greedy Method etc.
C62.3	Demonstrate and apply Dynamic Programming Techniques of various computing problems.
C62.4	Apply Backtracking, Graph Coloring and Branch and Bound concepts on real world problems.
C62.5	Define and develop solutions for NP Hard, NP Complete and decision problems.
CO. No.	**Description**
Course Outcomes: C63 – Machine Learning(PC603IT)	
C63.1	Describe the problems and issues associated with distributed systems.
C63.2	Explain occurrence of coordination in distributed systems.
C63.3	Illustrate how replicas are handled in distributed systems and consistency is maintained.
C63.4	Distinguish the implementation of security in distributed systems.
C63.5	Describe design trade-offs in large-scale distributed systems

CO. No.	Description
Course Outcomes: C64 – Network Security and Cryptography (PC604IT)	
C64.1	Illustrate the different classical encryption techniques
C64.2	Use mathematical concepts for different cryptographic algorithms
C64.3	Demonstrate cryptographic algorithms for encryption/key exchange
C64.4	Identify security issues in network, transport and application layers and outline appropriate security protocols
C64.5	Generate and Distribute a PGP key pair and use the PGP package to send an encrypted e-mail message
CO. No.	**Description**
Course Outcomes:C65 – Soft skills and Interpersonal Skills(U21EN301)	
C65.1	Listen to a variety of speakers and texts and will be able to comprehend and perform the required tasks.
C65.2	Speak and respond appropriately as per the task requirement.
C65.3	Read a variety of texts, comprehend, summarize them and perform the required tasks
C65.4	Write and publish a variety of documents such as Letters, Memos, Email, Blog, Reports, Cover-letter and Resume.
C65.5	Demonstrate the right attitude and skills to cope with organizing and communicating professionally
CO. No.	**Description**
Course Outcomes:C66 – Cloud Computing(PC623IT)	
C66.1	Demonstrate the architecture and concept of different cloud models: IaaS, PaaS, SaaS
C66.2	Identify security and compliance issues in Cloud
C66.3	Analyze the portability, interoperability and Cloud Management issues in the Cloud.
C66.4	Explain the design and architecture of SOA.
C66.5	Apply the concepts of real time applications
CO. No.	**Description**
Course Outcomes:C67 – Embedded Systems Lab(PC 651IT)	
C67.1	Apply the basic concepts to develop an Interface for 8051 and ARM processors.
C67.2	Develop various control applications like temperature, elevator and Traffic Controller.
C67.3	Develop embedded application using FPGAs, CPLDs and VHDL.
C67.4	Implement different Task Scheduling algorithms in RTOS.
C67.5	Applications development using RTOS.

CO. No.	Description
Course Outcomes:C68– Machine Learning Lab(PC652IT)	
C68.1	Implement various searching and sorting techniques and estimate the complexities of searching and sorting algorithms.
C68.2	Solve knapsack problem using greedy method and dynamic programming
C68.3	Develop and implement shortest path algorithms using Travelling salesman problem and All pair shortest path problem.
C68.4	Apply backtracking technique to solve N-queen problem
C68.5	Construct graph traversals using breath first search and depth first search.
CO. No.	**Description**
Course Outcomes:C69-Mobile Application Development Lab(PC653IT)	
C69.1	Implement various searching and sorting techniques and estimate the complexities of searching and sorting algorithms.
C69.2	Solve knapsack problem using greedy method and dynamic programming
C69.3	Develop and implement shortest path algorithms using Travelling salesman problem and All pair shortest path problem.
C69.4	Apply backtracking technique to solve N-queen problem
C69.5	Construct graph traversals using breath first search and depth first search.
CO. No.	**Description**
Course Outcomes:C610-Mini Project-I(PW654IT)	
C610.1	Acquired knowledge within the chosen area of technology for project development.
C610.2	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.
C610.3	Reproduce, improve and refine technical aspects for engineering projects.
C610.4	Work as an individual or in a team in development of technical projects.
C610.5	Communicate and report effectively project related activities and findings

Course Outcomes

Academic Year – 2022-2023 **Semester: VIII (OU)**

Student will be able to

CO. No.	Description
Course Outcomes:C81 – Cryptography and Network Security(PE813IT)	
C81.1	Illustrate the different classical encryption techniques
C81.2	Use mathematical concepts for different cryptographic algorithms
C81.3	Demonstrate cryptographic algorithms for encryption/key exchange
C81.4	Identify security issues in network, transport and application layers and outline appropriate security protocols
C81.5	Generate and Distribute a PGP key pair and use the PGP package to send an encrypted e-mail message
CO. No.	**Description**
Course Outcomes:C82 – Road Safety Engineering(OE 801 CE)	
C82.1	Articulate the fundamentals of traffic safety analysis
C82.2	Analyse accident data
C82.3	Remember the concepts of road safety in urban transport
C82.4	Apply crash reduction techniques
C82.5	Design of urban Infrastructure considering safety aspects
CO. No.	**Description**
Course Outcomes: C83 – Project Work-II	
C83.1	Acquire practical knowledge in spite of theoretical concepts he/she acquired.
C83.2	Recognize uncertainty of open-ended investigations like technical problems and difficulties in collecting the required data.
C83.3	Asses different tools /soft ware's and protocols which he used in the project.
C83.4	Simulate their Software results and dump into hardware for testing.
C83.5	Prepare the Documentation Report and perform the Presentation of the Project Work.