



Course Outcomes

Academic Year – 2022-2023

Semester: III (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 by examples the basic terminology of sets, relations, functions and algebraic structures along with their associated operations
C42.3	Demonstrate basics of counting, principles of permutations, combinations, applying inclusion /exclusion principle and pigeonhole methodology in solving counting problems.
C42.4	Demonstrate generating functions, write recurrence relations and apply various techniques solving recurrence relations.
C42.5	Transform a problem in computer science and engineering as a graph to solve it efficiently using concepts of graph theory.
CO. No.	Description
Course Outcomes: C42 – Computer Organization and Microprocessor(U21IT401)	
C42.1	Understand the basic components and the design of CPU, ALU and Control Unit.
C42.2	Understand memory hierarchy and its impact on computer cost/performance.
C42.3	Implement instruction level parallelism and pipelining for high performance Processor design
C42.4	Understand the instruction set, instruction formats and addressing modes of 8085.
C42.5	Write assembly language programs to solve problems.
CO. No.	Description
Course Outcomes: C43 – Database Management Systems(U21IT402)	
C43.1	Design ER model to represent simple Database Application scenarios and Construct Database queries using SQL.
C43.2	Construct 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	learn about the core concepts and operations of operating systems
C44.2	Apply the concepts of various scheduling algorithms.
C44.3	Analyze deadlock prevention and avoidance algorithms.
C44.4	compare and contrast various memory management strategies
C44.5	Perform different administrative operations on Linux, including gaining an understanding of file system functionality.

CO. No.	Description
Course Outcomes: C45 – Java Programming(U21CS402)	
C45.1	Understanding of OOP concepts and basics of java programming.
C45.2	Describe the concept of interfaces and abstract classes using extending and implementing keywords.
C45.3	Choose a suitable package to develop the inter process communication using multithreading.
C45.4	Describe the connectivity to database and java programming using JDBC Connectivity.
C45.5	Understand the interaction with the server using servlets
CO. No.	Description
Course Outcomes: C46 – Microprocessor Lab(U21IT4L1)	
C46.1	Apply different addressing modes & model programs using 8085 Instruction set
C46.2	Explain usage of string instructions of 8085 for string manipulation, comparison.
C46.3	Develop interfacing applications using 8085 processor.
C46.4	Design different programs using C-cross compilers for 8051 controller
C46.5	Develop interfacing application using 8051 controller.
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	Gather skills in using 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 modeling, designing, and implementing a DBMS.
CO. No.	Description
Course Outcomes: C48 – Operating Systems Lab(U21IT4L3)	
C48.1	Write programs in various data structures using arrays and linked lists.
C48.2	Develop ADT necessary for solving problems based on Stacks and Queues
C48.3	Evaluate binary trees, general tree structures, advanced search trees, heaps, Graphs
C48.4	Apply hash functions and handle collisions
C48.5	Implement various kinds of sorting techniques and apply appropriate techniques for solving given Problem
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
C49.5	Applying the knowledge of Event Handling.
C49.6	Create robust applications using Java standard class libraries and retrieve data from a database with JDBC.



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	Understand embedded systems, hardware and software components and design process of embedded system.
C61.2	List the RISC features of ARM core and study its architecture and instruction set.
C61.3	Acquire the knowledge about serial, parallel bus communication protocols and internet enabled systems-network protocols.
C61.4	Interpret steps and issues in the embedded system development process and different techniques for downloading embedded firmware into hardware
C61.5	Familiarize with the different IDEs for firmware development for different family of processors/controllers and learn about different tools and techniques for embedded hardware debugging.
CO. No.	Description
Course Outcomes:C62 – Design and Analysis of Algorithms(PC602IT)	
C62.1	Compute and analyze complexity if algorithms using asymptotic notations.
C62.2	Write algorithms to solve various computing problems and analyze their time and space complexity
C62.3	Solve scientific problems using iterative method an cope with limitations of algorithm power
C62.4	Understand and apply different algorithm design techniques to solve real world problems and analyze their complexities
C62.5	Describe algorithmic complexities of various well known computing problems
CO. No.	Description
Course Outcomes: C63 – Machine Learning(PC603IT)	
C63.1	Choose the learning techniques and investigate concept learning with hypothesis.
C63.2	Identify the characteristics and relate problems associated with supervised learning techniques
C63.3	To learn ensemble techniques and various unsupervised learning algorithms
C63.4	Understand Evolutionary learning & its variant methods
C63.5	Understand reinforcement learning and study applications of it

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 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	Understand the architecture and concept of different cloud models: IaaS, PaaS, SaaS
C66.2	Create virtual machine images and deploy them on cloud
C66.3	Identify security and compliance issues in Cloud
C66.4	Understand various Computing paradigms
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 and interface for 8051 and ARM processors.
C67.2	Demonstrate the RTOS concepts by designing real time applications
C67.3	Understand embedded systems, hardware and software components and design process of embedded system.
C67.4	List the RISC features of ARM core and study its architecture and instruction set.
C67.5	Develop interfacing application using 8051 controller.

CO. No.	Description
Course Outcomes:C68– Machine Learning Lab(PC652IT)	
C68.1	Apply machine learning algorithms: Dataset preparation, model selection, model building etc.
C68.2	Evaluate various machine learning approaches
C68.3	Use scikit-learn, Keras and Tensor Flow to apply ML techniques
C68.4	Design and develop solutions to real world problems using ML techniques
C68.5	Apply unsupervised learning and interpret the results.
CO. No.	Description
Course Outcomes:C69-Mobile Application Development Lab(PC653IT)	
C69.1	Identify various concepts of mobile programming that make it unique from programming for other platforms.
C69.2	Critique mobile applications on their design pros and cons
C69.3	Utilize rapid prototyping techniques to design and develop sophisticated mobile interfaces
C69.4	Program mobile applications for the Android operating system that use basic and advanced phone features, and
C69.5	Deploy applications to the Android marketplace for distribution.
CO. No.	Description
Course Outcomes:C610-Mini Project-I(PW654IT)	
C610.1	Get Practical experience of software design and development, and coding practices within Industrial/R&D Environments.
C610.2	Gain working practices within Industrial/R&D Environments.
C610.3	Evaluate different solutions based on economic and technical feasibility
C610.4	Effectively plan a project and confidently perform all aspects of project management
C610.5	Prepare reports and other relevant documentation.



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	Understand the various applications of IoT and other enabling technologies.
C81.2	Comprehend various protocols and communication technologies used in IoT
C81.3	Design simple IoT systems with requisite hardware and C programming software
C81.4	Understand the relevance of cloud computing and data analytics to IoT
C81.5	Comprehend the business model of IoT from developing a prototype to launching a product.
CO. No.	Description
Course Outcomes:C82 – Road Safety Engineering(OE 801 CE)	
C82.1	Understand the fundamentals of traffic safety analysis
C82.2	Analyze 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	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems.
C83.2	Evaluate different solutions based on economic and technical feasibility
C83.3	Effectively plan a project and confidently perform all aspects of project management
C83.4	Demonstrate effective written and oral communication skills
C83.5	Prepare reports and other relevant documentation.