Course Outcomes

Academic Year – 2022-2023 **Semester: III(Autonomous)**

Student will be able to

CO. No.	Description
Course Outcomes:C31— Digital Electronics & Computer Organization (U21EC304)	
C31.1	Understand the basic concepts of digital electronics
C31.2	Realization of Boolean functions using different methods
C31.3	Design and analyze various combinational circuit
C31.4	Analyze various types of flip flops with their excitation tables and their conversion
C31.5	Illustrate the operation of digital computer and tounderstand its organization.
C31.6	Understand the Different memory types.
CO. No.	**Description**
Course Outcomes:C32– Operations Research (U21ME307)	
C32.1	Understand the ideas of mathematical induction to recursion and recursively defined structures.
C32.2	Knowledge of Linear Programming Problem in Operations
C32.3	Understand the concept and develop the models for different applications.
C32.4	Understand the concept Replacement models, various features and applications of replacement models in real time scenario.
C32.5	Understand theory of Game in operations research and explain application of Game theory in decision making for a conflict
CO. No.	**Description**
Course Outcomes: C33-- Discrete Mathematics (U21CS301)	
C33.1	Illustrate by examples the basic terminology of functions, relations, and sets anddemonstrate knowledge of their associated operations.
C33.2	Understand basics of counting; apply permutations and combinations to handle different typesof objects.
C33.3	Describe and use recursively-defined relationships to solve problems using generating functions.
C33.4	Analyze semi group, monoid group and abelian group with suitable examples andappreciate group theory applications in computer arithmetic.
C33.5	Demonstrate in practical applications the use of basic counting principles of permutations, combinations, inclusion/exclusion principle and the pigeon holemethodology.
CO. No.	**Description**
Course Outcomes:C34--Data Structures (U21CS302)	
C34.1	Implement various data structures using arrays, linked lists
C34.2	Develop ADT necessary for solving problems based on Stacks and Queues

C34.3	Implement binary trees, general tree structures, advanced search trees, heaps,graphs.
C34.4	Implement hash functions and handle collisions.
C34.5	Implement various kinds of sorting techniques and apply appropriatetechniques for solving a given problem.
CO. No.	Description
Course Outcomes:C35 – Python Programming (U21CM301)	
C35.1	Develop essential programming skills in computer programming conceptslikedata types, containers.
C35.2	Apply the basics of programming in the Python language.
C35.3	Solve coding tasks related conditional execution, loops.
C35.4	Acquire coding tasks related to the fundamental notions and techniques usedin object oriented programming
C35.5	Write basic programs related to basic library modules.

Course Outcomes

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

Student will be able to

CO. No.	Description
Course Outcomes: C51-- SOFTWARE ENGINEERING (PC 501 CS)	
C51.1	Acquired working knowledge of alternative approaches and techniques for each phase of software development.
C51.2	Judge an appropriate process model(s) assessing software project attributesand analyze necessary requirements for project development eventually composing SRS.
C51.3	Acquire skills necessary as an independent or as part of a team for architectinga complete software project by identifying solutions for recurring problems exerting knowledge on patterns.
C51.4	Concede product quality through testing techniques employing appropriatemetrics by understanding the practical challenges associated with the development of a significant software system.
CO. No.	**Description**
Course Outcomes:C52-- Principles of Programming Languages (PC502CS)	
C52.1	Express syntax and semantics in formal notation.
C52.2	Apply suitable programming paradigm for the application.
C52.3	Gain Knowledge and comparison of the features programming languages.
C52.4	Program in different language paradigms and evaluate their relative benefits.
C52.5	Identify and describe semantic issues associated with variable binding, scopingrules, parameter passing, and exception handling.
C52.6	Understand the design issues of object-oriented and functional languages.
CO. No.	**Description**
Course Outcomes:C53-- Automata Languages & Computation (PC503CS)	
C53.1	Write a formal notation for strings, languages, and machines
C53.2	Design finite automata to accept a set of strings of a language.
C53.3	Design context free grammars to generate strings of context free languages.
C53.4	Determine equivalence of languages accepted by Pushdown Automata andlanguages generated by context free grammars.
C53.5	Distinguish between computability and non-computability and Decidability and undecidability.

CO. No.	Description
Course Outcomes:C54--Artificial Intelligence (PC504CS)	
C54.1	Formalize a problem in the language/framework of different AI methods.
C54.2	Illustrate basic principles of AI in solutions that require problem solving, search, Inference.
C54.3	Represent natural language/English using Predicate Logic to build knowledge through various representation mechanisms.
C54.4	Demonstrate understanding of steps involved in building of intelligent agents,expert systems, Bayesian networks.
C54.5	Differentiate between learning paradigms to be applied for an application.
CO. No.	**Description**
Course Outcomes:C55-- Computer Networks (PC505CS)	
C55.1	Explain the functions of the different layer of the OSI and TCP/IP Protocol.
C55.2	Understand wide-area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs) describe the function of each block.
C55.3	Illustrate network layer and transport layer protocols. For a given problem related TCP/IP protocol developed the network programming.
C55.4	Configure DNS, EMAIL, SNMP, Bluetooth, Firewalls using open-sourceavailable software and tools.
C55.5	Identify the types of encryption techniques.
CO. No.	**Description**
Course Outcomes:C56–Object Oriented Analysis And Design(PE514CS)	
C56.1	**Understand** OOAD concepts, various UML diagrams, unified process andAgile Process
C56.2	**Illustrate** about domain models, conceptual classes UML Tools.
C56.3	**Analyze** and **design** the requirement through use case driven approach **andConstruct** projects using UML diagrams
C56.4	Document the concepts of architectural design for mapping thecode for software
C56.5	Select an appropriate design pattern to **Analyze** object-based views for genericsoftware systems.
C56.6	**Compare** and contrast testing techniques

Course Outcomes

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

Student will be able to

CO. No.	Description
Course Outcomes: C71-- Information Security (PC 701 CS)	
C71.1	Describe the steps in Security Systems development life cycle (SecSDLC).
C71.2	Identify security needs using risk management and choose the appropriate risk control strategy based on business needs.
C71.3	Use the basic knowledge of security frameworks in preparing security blue printfor the organization.
C71.4	Usage of reactive solutions, network perimeter solution tools such as firewalls, host solutions such as antivirus software and Intrusion Detection techniques andknowledge of ethical hacking tools.
C71.5	Use ethical hacking tools to study attack patterns and cryptography and securecommunication protocols.
C71.6	Understand the technical and non-technical aspects of security projectimplementation and accreditation.
CO. No.	**Description**
Course Outcomes:C72-- Data Science Using R Programming (PC702CS)	
C72.1	Understand the Data Science Applications and Basics of 'R' Programming with Linear equations, Eigen Values Vectors
C72.2	Learn Various Statistical concepts like linear and logistic regression, time series analysis and also learn the various 'R' libraries
C72.3	Able to install 'R' software for data analysis and analyze the models for classification
C72.4	Understand Decision tree, association rule and text mining using 'R' objects
C72.5	Evaluate the relational databases MySQL, data reading, NoSQL, and MongoDB
C72.6	Analyze and implementation of 'R' basic programs
CO. No.	**Description**
Course Outcomes:C73-- Distributed Systems (PC703CS)	
C73.1	List the principles of distributed systems and describe the problems and challenges associated with these principles
C73.2	To know about interposes communication and remote communication.
C73.3	Understand Distributed Computing techniques, Synchronous and Processes.
C73.4	Understand Distributed File Systems Apply Distributed web-based system.

C73.5	Understand the importance of security in distributed systems.

CO. No.	Description
Course Outcomes:C74-- Start- Up Entrepreneurship (OE701ME)	
C74.1	Understand Indian Industrial Environment, Entrepreneurship and Economic growth, Small and Large Scale Industries, Types and forms of enterprises.
C74.2	Identify the characteristics of entrepreneurs, Emergence of first generation entrepreneurs, Conception and evaluation of ideas and their sources.
C74.3	Practice the principles of project formulation, Analysis of market demand, Financial and profitability analysis and Technical analysis.
C74.4	Understand the concept of Intellectual Property Rights and Patents.
C74.5	Comprehend the aspects of Start-Ups