Course Outcomes

Academic Year – 2023-2024   **Semester: III (A)**

Student will be able to

CO No.	Description
Course Outcomes: C31-Digital Electronics and Computer Organization (U21EC304)	
C31.1	Demonstrate the Basics of Digital Electronics and design various logic gates and simplify Boolean Expressions.
C31.2	Realize and analyze the operation of MUX, decoders, adder, subtractor, BCD adder, nitude comparator circuit.
C31.3	Study and construction of Sequential logic Circuits. Understand various design of flip flops and to identify and realize circuits using flip-flop
C31.4	ibe the architecture of modern computer, Bus structures.
C31.5	Analyse the Different memories and evaluate the mapping techniques

CO No.	Description
Course Outcomes: C32 – Operating Systems(U21CD301)	
C32.1	Demonstrate the knowledge of the components of computer and their respective roles in Computing.
C32.2	Understand and analyze theory and implementation of processes, resource control, physical, and virtual memory, scheduling, 1/0 and files.
C32.3	Understand deadlock, prevention and avoidance algorithms.
C32.4	Compare and contrast various memory management schemes.
C32.5	Understand the functionality of file systems and perform administrative tasks on Linux.

CO. No.	Description
Course Outcomes: C33 – Data Structures(U21CS302)	
C33.1	Implement various data structures using arrays, linked lists
C33.2	Develop ADT necessary for solving problems based on Stacks and Queues
C33.3	Implement binary trees, general tree structures, advanced search trees, heaps, graphs.
C33.4	Implement hash functions and handle collisions.
C33.5	Implement various kinds of sorting techniques and apply appropriate techniques for solving a given problem

CO. No.	Description
Course Outcomes: C34 – Basic of Data Science(U21CD401)	
C34.1	Understand the basics concepts of Data Science and categorizing the Data.

C34.2	Understand the datasets and extract the datasets.
C34.3	Understand the fundamentals of Data Mining and various phases of Data Mining.
C34.4	Understand the concepts and procedures of Pre-processing in Data Mining
C34.5	Understand the fundamentals of R-Programming Language.

CO. No.	Description
Course Outcomes: C35 – Python Programming(U21CM301)	
C35.1	Develop essential programming skills in computer programming concepts like data types,containers.
C35.2	Apply the basics of programming in the python language.
C35.3	Solve coding tasks related to conditional execution,loops.
C35.4	Acquire coding tasks related to the fundamental notions and techniques used in object oriented programming.
C35.5	Write basic programs related to basic library modules.

CO. No.	Description
Course Outcomes: C36 – Data Structures Lab(U21CS3L1)	
C36.1	Write programs in various data structures using arrays and linked lists.
C36.2	Develop ADT necessary for solving problems based on Stacks and Queues.
C36.3	Evaluate binary trees, general tree structures, advanced search trees, heaps, graphs.
C36.4	Apply hash functions and handle collisions.
C36.5	Implement various kinds of sorting techniques and apply appropriate techniques for solving a given problem.

CO. No.	Description
Course Outcomes: C37 – Data Science using R Lab (U21CD4L1)	
C37.1	Understand the critical R programming language,exposure on solving data science problems.
C37.2	To implement various statistical concepts like linear and logistic regression.
C37.3	To Analyze data and generate reports based on the data,applying various concepts to write programs of R.
C37.4	Program delves into the intricacies of calculations,co-relations and statistical probabilities.
C37.5	It performs classification and clustering using appropriate dataset by understanding the classification and regression models.

CO. No.	Description
Course Outcomes: C38 – Python Programming Lab(U21CM3L1)	
C38.1	To summarize the fundamental concept of python programming.
C38.2	To Outline the control statements and functions by writing python programs.
C38.3	To Demonstrate file handling operation and packages.
C38.4	Interpret object oriented programming in python.
C38.5	Apply the suitable libraries to solve simple problems.

LORDS INSTITUTE OF ENGINEERING AND TECHNOLOGY
Department of CSE-Data Science
Course Outcomes

Academic Year – 2023-2024   **Semester: V (A)**

Student will be able to

CO. No.	Description
Course Outcomes: C51 – Design and Analysis of Algorithms(U21CS501)	
C51.1	Identify asymptotic notations and basic efficiency classes
C51.2	Solve problems using various techniques like greedy and divide-and-conquer
C51.3	Use different algorithms like TSP, Floyd's etc. to solve real world problems.
C51.4	Introduce the P and NP classes.
C51.5	Develop solutions for n - Queens problem, Subset – Sum Problem, Assignment problem, Knapsack problem etc

CO. No.	Description
Course Outcomes: C52 -Discrete Mathematics(U21CD502)	
C52.1	Apply Propositional and Predicate logic for a variety of problems in various domains.
C52.2	Understand Set Theory, Venn Diagrams, relations, functions and apply them to Real-world scenarios.
C52.3	Model and solve the real-world problems using Generating Functions and Recurrence Relations.
C52.4	To identify the basic properties of graphs and trees and use these concepts to model simple applications.
C52.5	Understand General properties of Algebraic systems and study lattices as partially ordered sets and their applications

CO. No.	Description
Course Outcomes: C53 – Artificial Intelligence(U21CD5L1)	
C53.1	Illustrate basic principles of AI in solutions that require problem solving, search, inference
C53.2	Demonstrate understanding of steps involved in building of intelligent agents, expert systems, Bayesian networks.
C53.3	Differentiate between learning paradigms to be applied for an application
C53.4	Demonstrate Expert system its utilization.
C53.5	Illustrate AI application machine learning & its types.

CO. No.	Description
Course Outcomes: C54 – Web Technology (U21CD507)	
C54.1	Understand the concepts of HTML and CSS.
C54.2	Acquire the knowledge to build applications using Java script.
C54.3	Understand and apply the concepts of PHP server-side language.

C54.4	Implement Boot strap to build interactive web mobile applications.
C54.5	Acquire the knowledge of database connectivity in web applications.

	Description

Course Outcomes: C55 – Managerial communications (U21MB501)

C55.1	The importance of Communication in Business
C55.2	To develop writing skills and presentation
C55.3	Writing business proposals and letters
C55.4	Application of business communication in the self-development process.
C55.5	Infuse the relational management with various stakeholders

CO. No.	**Description**

Course Outcomes: C56 – Artificial Intelligence Lab(U21CD5L1)

C56.1	Illustrate basic principles of AI in solutions that require problem solving, search, inference
C56.2	Demonstrate understanding of steps involved in building of intelligent agents, expert systems, Bayesian networks.
C56.3	Differentiate between learning paradigms to be applied for an application
C56.4	Demonstrate Expert system its utilization.
C56.5	Illustrate AI application machine learning & its types.

CO. No.	**Description**

Course Outcomes: C57 – Design and Analysis of Algorithms Lab(U21CS5L1)

C57.1	Solve problems by applying appropriate algorithms.
C57.2	Analyze the efficiency of various algorithms.
C57.3	Apply techniques of stacks and queues to solve problems.
C57.4	Develop a program that can be solved in many ways using different techniques
C57.5	Identify and evaluate complex problems using principles of mathematics and engineering science

	Description

Course Outcomes: C58 –Internship(U21CD5PI)

C58.1	Design/develop a small and simple product in hardware or software.
C58.2	Complete the task or realize a pre specified target, with limited scope, rather than taking up a complex task and leave it.
C58.3	Learn to find alternate viable solutions for a given problem and evaluate these alternatives with reference to pre specified criteria.
C58.4	Implement the selected solution and document the same.
C58.5	Student will be able to construct the documentation.

LORDS INSTITUTE OF ENGINEERING AND TECHNOLOGY
Department of CSE-Data Science
Course Outcomes

Student will be able to

CO No.	Description
	Course Outcomes:C71- Big Data Analytics (PC701CD)
C71.1	Demonstrate big data and use cases from selected business domains.
C71.2	Apply the knowledge of NoSQL big data management and Adapt Hadoop related tools such as HBase, Cassandra, Pig, and Hive for big data Analytics.
C71.3	Experiment with Install, configure, and run Hadoop and HDFS.
C71.4	Analyze map-reduce analytics using Hadoop.
C71.5	Understanding big data tools and techniques.

CO No.	Description
	Course Outcomes:C72 – Deep Learning (PC702CD)
C72.1	Understand the fundamentals of deep learning
C72.2	Understand deep learning algorithms and design neural network
C72.3	Train and implement a neural network
C72.4	Gain knowledge about convolutional neural networks
C72.5	Apply neural networks in various fields.

CO No.	Description
	Course Outcomes: C73 – Data Handling and Data Visualization (PC703CD)
C73.1	Understand the different levels & types of data in real world datasets.
C73.2	Understands different methods of pre-processing the data.
C73.3	Visualize & analyze the datasets using different graphs & plots
C73.4	Identify the missing data in any dataset & design the process.
C73.5	Apply virtualization techniques for research projects.

CO No.	Description
	Course Outcomes: C74– Block chain Technology (PE 743CD)
C74.1	Explain Nakamoto consensus
C74.2	Understand the design principles of block chain systems - Bitcoin and Ethereum.
C74.3	Understand Distributed Consensus
C74.4	Design, build, and deploy a distributed application through case study
C74.5	Evaluate security, privacy, and efficiency of a given block chain system

CO No.	Description
Course Outcomes: C74b – 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.

CO No.	Description
Course Outcomes: C75 – Big Data Analytics Lab (PC752CD)	
C75.1	Understand Hadoop working environment
C75.2	Work with big data applications in multi node clusters
C75.3	Write scripts using Pig to solve real world problems
C75.4	Write queries using Hive to analyze the datasets
C75.5	Apply big data and echo system techniques for real world

CO No.	Description
Course Outcomes: C76 – Data Handling and Visualization Lab (PC752 CD)	
C76.1	Identify visualization types and the different data types to bring out the insight.
C76.2	Analyze and bring out valuable insight on a large dataset and relate the visualization towards the problem based on the dataset.
C76.3	Using various visualization techniques and tools can demonstrate the analysis of a large dataset
C76.4	Identify and create various visualizations for geospatial and table data.
C76.5	Ability to create and interpret plots using R/Python.

CO No.	Description
Course Outcomes: C77 – Project Work (PW753CD)	
C77.1	Demonstrate a sound technical knowledge of their selected project topic.
C77.2	Undertake problem identification, formulation and solution
C77.3	Design engineering solutions to complex problems utilizing a systems approach.
C77.4	Communicate with engineers and the community at large in written and oral forms.
C77.5	Demonstrate the knowledge, skills and attitudes of a professional engineer.

CO No.	Description
Course Outcomes: C78 –Internship (SI754CD)	
C78.1	Able to design/develop a small and simple product in hardware or software.
C78.2	Able to complete the task or realize a pre-specified target, with limited scope, rather than taking up a complex task and leave it.

C78.3	Able to learn to find alternate viable solutions for a given problem and evaluate these alternatives with reference to pre-specified criteria.
C78.4	Able to implement the selected solution and document the same
C78.5	Creates a professional network within industry. Connecting with professionals, mentors, and colleagues for future job opportunities, provide valuable insights, and offer guidance as you navigate your career path.