

List of Course Outcomes for Academic year 2023-2024

S.No.	Year & Semester	Course Code	Course Name	Course Outcomes
1.	II / III	MA3354	DISCRETE MATHEMATICS	<p>CO1: Have knowledge of the concepts needed to test the logic of a program.</p> <p>CO2: Have an understanding in identifying structures on many levels.</p> <p>CO3: Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science.</p> <p>CO4: Be aware of the counting principles.</p> <p>CO5: Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.</p>
2.	II / III	CS3351	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	<p>CO1 : Design various combinational digital circuits using logic gates</p> <p>CO2 : Design sequential circuits and analyze the design procedures</p> <p>CO3 : State the fundamentals of computer systems and analyze the execution of an instruction</p> <p>CO4 : Analyze different types of control design and identify hazards</p> <p>CO5 : Identify the characteristics of various memory systems and I/O communication</p>
3.	II / III	AD3391	DATABASE MANAGEMENT SYSTEMS	<p>CO1: Understand the database development life cycle and apply conceptual modeling</p> <p>CO2: Apply SQL and programming in SQL to create, manipulate and query the database</p> <p>CO3: Apply the conceptual-to-relational mapping and normalization to design relational database</p> <p>CO4: Determine the serializability of any non-serial schedule using concurrency techniques</p> <p>CO5: Apply the data model and querying in Object-relational and No-SQL databases.</p>
4.	II / III	AD3301	DATA EXPLORATION AND VISUALIZATION	<p>CO1: Understand the fundamentals of exploratory data analysis.</p> <p>CO2: Implement the data visualization using Matplotlib.</p> <p>CO3: Perform univariate data exploration and analysis.</p> <p>CO4: Apply bivariate data exploration and analysis.</p> <p>CO5: Use Data exploration and visualization techniques for multivariate and time series data.</p>
5.	II / III	AD3351	DESIGN AND ANALYSIS OF ALGORITHMS	<p>CO1: Analyze the efficiency of recursive and non-recursive algorithms mathematically</p> <p>CO2: Analyze the efficiency of brute force, divide and conquer, decrease and conquer,</p>

				<p>Transform and conquer algorithmic techniques</p> <p>CO3: Implement and analyze the problems using dynamic programming and greedy algorithmic techniques.</p> <p>CO4: Solve the problems using iterative improvement techniques for optimization.</p> <p>CO5: Compute the limitations of algorithmic power and solve the problems using backtracking and branch and bound techniques.</p>
6.	II / III	AL3391	ARTIFICIAL INTELLIGENCE	<p>CO1: Explain intelligent agent frameworks</p> <p>CO2: Apply problem solving techniques</p> <p>CO3: Apply game playing and CSP techniques</p> <p>CO4: Perform logical reasoning</p> <p>CO5: Perform probabilistic reasoning under uncertainty</p>
7.	II / III	AD3381	DATABASE DESIGN AND MANAGEMENT LABORATORY	<p>CO1: Understand the database development life cycle</p> <p>CO2: Design relational database using conceptual-to-relational mapping, Normalization</p> <p>CO3: Apply SQL for creation, manipulation and retrieval of data</p> <p>CO4: Develop a database applications for real-time problems</p> <p>CO5: Design and query object-relational databases</p>
8.	II / III	AD3311	ARTIFICIAL INTELLIGENCE LABORATORY L	<p>CO1: Design and implement search strategies</p> <p>CO2: Implement game playing and CSP techniques</p> <p>CO3: Develop logical reasoning systems</p> <p>CO4: Develop probabilistic reasoning systems</p>
9.	II/IV	MA3391	PROBABILITY AND STATISTICS	<p>CO1: Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon.</p> <p>CO2: Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.</p> <p>CO3: Apply the concept of testing of hypothesis for small and large samples in real life problems.</p> <p>CO4: Apply the basic concepts of classifications of design of experiments in the field of agriculture and statistical quality control.</p> <p>CO5: Have the notion of sampling</p>

				distributions and statistical techniques used in engineering and management problems.
10.	II/IV	CS3591	COMPUTER NETWORKS	CO 1: Explain the basic layers and its functions in computer networks. 75 CO 2: Understand the basics of how data flows from one node to another. CO 3: Analyze routing algorithms. CO 4: Describe protocols for various functions in the network. CO 5: Analyze the working of various application layer protocols.
11.	II/IV	AL3452	OPERATING SYSTEMS	CO1: Analyze various scheduling algorithms and process synchronization. CO2 : Explain deadlock, prevention and avoidance algorithms. CO3 : Compare and contrast various memory management schemes. CO4 : Explain the functionality of file systems I/O systems, and Virtualization CO5 : Compare iOS and Android Operating Systems.
12.	II/IV	AD3491	FUNDAMENTALS OF DATA SCIENCE AND ANALYTICS	CO1: Explain the data analytics pipeline CO2: Describe and visualize data CO3 : Perform statistical inferences from data CO4 : Analyze the variance in the data CO5 : Build models for predictive analytics
13.	II/IV	AL3451	MACHINE LEARNING	CO1: Explain the basic concepts of machine learning. CO2 : Construct supervised learning models. CO3 : Construct unsupervised learning algorithms. CO4: Evaluate and compare different models
14.	II/IV	GE3451	ENVIRONMENTAL SCIENCES AND SUSTAINABILITY	CO1:To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation. CO2:To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society. CO3:To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations. CO4:To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development. CO5:To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.

15.	II/IV	AL3461	MACHINE LEARNING LABORATORY	<p>CO1: Apply suitable algorithms for selecting the appropriate features for analysis.</p> <p>CO2: Implement supervised machine learning algorithms on standard datasets and evaluate the performance.</p> <p>CO3: Apply unsupervised machine learning algorithms on standard datasets and evaluate the performance.</p> <p>CO4: Build the graph based learning models for standard data sets.</p> <p>CO5: Assess and compare the performance of different ML algorithms and select the suitable one based on the application.</p>
16.	II/IV	AD3411	DATA SCIENCE AND ANALYTICS LABORATORY	<p>CO1. Write python programs to handle data using Numpy and Pandas</p> <p>CO2. Perform descriptive analytics</p> <p>CO3. Perform data exploration using Matplotlib</p> <p>CO4. Perform inferential data analytics</p> <p>CO5. Build models of predictive analytics</p>