Rajendra Mane College of Engineering and Technology Computer Engineering Department Course Outcomes

Class SE	Sem-III
Subject	Outcomes
EM-III	 Understand the concept of Laplace transform and its application to solve the real integrals in engineering problems. Understand the concept of inverse Laplace transform of various functions and its applications in engineering problems. Expand the periodic function by using the Fourier series for real-life problems and complex engineering problems Understand complex variable theory, application of harmonic conjugate to get orthogonal trajectories and analytic functions. Apply the concept of Correlation and Regression to the engineering problems in data science, machine learning, and AI. Understand the concepts of probability and expectation for getting the spread of the data and distribution of probabilities.
DSGT	 Understand the notion of mathematical thinking, mathematical proofs and to apply them in problem solving. Ability to reason logically. Ability to understand relations, functions, Diagraph and Lattice. Ability to understand and apply concepts of graph theory in solving real world problems. Understand use of groups and codes in Encoding-Decoding Analyze a complex computing problem and apply principles of discrete mathematics to identify solutions
DS	 Students will be able to implement Linear and Non-Linear data structures. 2 Students will be able to handle various operations like searching, insertion, deletion and traversals on various data structures. 3 Students will be able to explain various data structures, related terminologies and its types. 4 Students will be able to choose appropriate data structure and apply it to solve problems in various domains. 5 Students will be able to analyze and Implement appropriate searching techniques for a given problem. 6 Students will be able to demonstrate the ability to analyze, design, apply and use data structures to solve engineering problems and evaluate their solutions

DLCA	 To learn different number systems and basic structure of computer system. To demonstrate the arithmetic algorithms. To understand the basic concepts of digital components and processor organization. To understand the generation of control signals of computer. To demonstrate the memory organization. To describe the concepts of parallel processing and different Buses.
CG	 Describe the basic concepts of Computer Graphics. Demonstrate various algorithms for basic graphics primitives. Apply 2-D geometric transformations on graphical objects. Use various Clipping algorithms on graphical objects Explore 3-D geometric transformations, curve representation techniques and projections methods. Explain visible surface detection techniques and Animation
SBLC-OOPJ	 To apply fundamental programming constructs. To illustrate the concept of packages, classes and objects. To elaborate the concept of strings, arrays and vectors. To implement the concept of inheritance and interfaces. To implement the concept of exception handling and multithreading. To develop GUI based application.

Class- SE

Sem-IV

Subject	Outcomes
EM-IV	 Apply the concepts of eigenvalues and eigenvectors in engineering problems. Use the concepts of Complex Integration for evaluating integrals, computing residues & evaluate various contour integrals. Apply the concept of Z- transformation and inverse in engineering problems. Use the concept of probability distribution and sampling theory to engineering problems. Apply the concept of Linear Programming Problems to optimization. Solve Non-Linear Programming Problems for optimization of engineering problems.
ΑΟΑ	 Analyze the running time and space complexity of algorithms. Describe, apply and analyze the complexity of divide and conquer strategy. Describe, apply and analyze the complexity of greedy strategy. Describe, apply and analyze the complexity of dynamic programming strategy. Explain and apply backtracking, branch and bound. Explain and apply string matching techniques.
DBMS	 Recognize the need of database management system Design ER and EER diagram for real life applications Construct relational model and write relational algebra queries. Formulate SQL queries Apply the concept of normalization to relational database design. Describe the concept of transaction, concurrency and recovery.
OS	 1 Understand the objectives, functions and structure of OS 2 Analyze the concept of process management and evaluate performance of processscheduling algorithms. 3 Understand and apply the concepts of synchronization and deadlocks 4 Evaluate performance of Memory allocation and replacement policies 5 Understand the concepts of file management. Apply concepts of I/O management and analyze techniques of disk scheduling.

MP	1 Describe core concepts of 8086 microprocessor.
	2 Interpret the instructions of 8086 and write assembly and Mixed
	language programs.
	3 Identify the specifications of peripheral chip.
	4 Design 8086 based system using memory and peripheral chips.
	5 Appraise the architecture of advanced processors
	6 Understand hyperthreading technology
SBLC-Python	1 To understand basic concepts in python.
Programming	2 To explore contents of files, directories and text processing with
	python
	3 To develop program for data structure using built in functions in
	python.
	4 To explore django web framework for developing python-based
	web application.
	5 To understand Multithreading concepts using python.

Class-TE

Sem-V

Subject	Outcomes
TCS	 Understand concepts of Theoretical Computer Science, difference and equivalence of DFA and NFA , languages described by finite automata and regular expressions. Design Context free grammer, pushdown automata to recognize the language. Develop an understanding of computation through Turing Machine. Acquire fundamental understanding of decidability and undecidability.
SE	 Identify requirements & assess the process models. Plan, schedule and track the progress of the projects. Design the software projects. Do testing of software project. Identify risks, manage the change to assure quality in software projects.
CN	 Demonstrate the concepts of data communication at physical layer and compare ISO - OSI model with TCP/IP model. Explore different design issues at data link layer. Design the network using IP addressing and sub netting / supernetting schemes. Analyze transport layer protocols and congestion control algorithms. Explore protocols at application layer
DWM	 Understand data warehouse fundamentals and design data warehouse with dimensional modelling and apply OLAP operations. Understand data mining principles and perform Data preprocessing and Visualization. Identify appropriate data mining algorithms to solve real world problems. Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining Describe complex information and social networks with respect to web mining.
IP	 Implement interactive web page(s) using HTML and CSS. Design a responsive web site using JavaScript and demonstrate database connectivity using JDBC Demonstrate Rich Internet Application using Ajax and demonstrate and differentiate various Web Extensions Demonstrate web application using Reactive Js

Professional-	1) Plan and prepare effective business/ technical documents
Draatiaa II	which will in turn provide solid foundation for their future
Practice II	managerial roles.
	2) Strategize their personal and professional skills to build a
	professional image and meet the demands of the industry.
	3) Emerge successful in group discussions, meetings and result-
	oriented agreeable solutions in group communication situations.
	4) Deliver persuasive and professional presentations.
	5) Develop creative thinking and interpersonal skills required for
	effective professional communication.
	6) Apply codes of ethical conduct, personal integrity and norms
	of organizational behaviour.

Class-TE

Subject	Outcomes
SPCC	 Identify the relevance of different system programs. Explain various data structures used for assembler and microprocessor design. Distinguish between different loaders and linkers and their contribution in developing efficient user applications. Understand fundamentals of compiler design and identify the relationships among different phases of the compiler.
CSS	 1 Understand system security goals and concepts, classical encryption techniques and acquire fundamental knowledge on the concepts of modular arithmetic and number theory 2 Understand, compare and apply different encryption and decryption techniques to solve problems related to confidentiality and authentication 3 Apply different message digest and digital signature algorithms to verify integrity and achieve authentication and design secure applications 4 Understand network security basics, analyse different attacks on networks and evaluate the performance of firewalls and security protocols like SSL, IPSec, and PGP 5 Analyse and apply system security concept to recognize malicious code
MC	 1 To identify basic concepts and principles in computing, cellular architecture. 2 To describe the components and functioning of mobile networking. 3 To classify variety of security techniques in mobile network. 4 To apply the concepts of WLAN for local as well as remote applications. 5 To describe Long Term Evolution (LTE) architecture and its interfaces.
AI	 1 Ability to develop a basic understanding of AI building blocks presented in intelligent agents. 2 Ability to choose an appropriate problem solving method and knowledge representation technique. 3 Ability to analyze the strength and weaknesses of AI approaches to knowledge– intensive problem solving. 4 Ability to design models for reasoning with uncertainty as well as the use of unreliable information. 5 Ability to design and develop AI applications in real world scenarios.

DSIP	 Understand the concept of DT Signal and DT Systems Classify and analyze discrete time signals and systems Implement Digital Signal Transform techniques DFT and FFT Use the enhancement techniques for digital Image Processing Apply image segmentation techniques
CCL	 Implement different types of virtualization techniques. Analyze various cloud computing service models and implement them to solve the given problems. Design and develop real world web applications and deploy them on commercial cloud(s). Explain major security issues in the cloud and mechanisms to address them. Explore various commercially available cloud services and recommend the appropriate one for the given application. Implement the concept of containerization

Class:BE

Sem: VII

Subject	Outcomes
ML	1.To acquire fundamental knowledge of developing machine learning
	models.
	2. To select, apply and evaluate an appropriate machine learning model
	for the given application.
	3.10 demonstrate ensemble techniques to combine predictions from
	4 To demonstrate the dimensionality reduction techniques
	4.10 demonstrate the dimensionality reduction techniques.
BDA	1 Understand the building blocks of Big Data Analytics.
	2 Apply fundamental enabling techniques like Hadoop and MapReduce
	in solving real world problems.
	3 Understand different NoSQL systems and how it handles big data.
	4 Apply advanced techniques for emerging applications like stream
	analytics.
	5 Achieve adequate perspectives of big data analytics in various
	applications like recommender systems, social media applications, etc.
	6 Apply statistical computing techniques and graphics for analyzing big
	data.
IVI V	2 Perform image video preprocessing operations
	3 Explain various transformations interpolation
	4 Elaborate motion tracking in video.
	5 Analyze and Implement appropriate filtering techniques for a given
	problem.
	6 Develop applications based on machine vision
CSL	1 Understand the need of Cyber Security and awareness of existing law
	infrastructure
	2 Illustrate the various tools and techniques used by attackers to launch
	their attacks
	3 Appraise various mechanisms of conducting system vulnerability
	4 Discuss various web application vulnerability scapping techniques
	5 Identify the various network defense methodologies
	6 Describe the various Privacy and standard compliances
AVR	1: Describe how VR systems work and list the applications of VR
	2: Elaborate geometric presentation of the virtual world and its
	operations.
	3: Explain the concepts of motion and tracking in VR systems.
	4: Design and implementation of the hardware that enables VR systems
	tobe built.
	5: Describe how AK systems work and analyze the hardware
	requirement of AK
	devices

Class: BE

Sem: VIII

Subject	Course
DC	 1 Demonstrate the knowledge of basic elements and concepts related to distributed system technologies. 2 Illustrate the middleware technologies that support distributed applications such as RPC, RMI and Object-based middleware. 3 Analyze the various techniques used for clock synchronization, mutual exclusion and deadlock. 4 Demonstrate the concepts of Resource and Process management. 5 Demonstrate the concepts of Consistency, Replication Management and fault Tolerance. 6 Apply the knowledge of Distributed File systems in building large-scale distributed applications.
DL	 Gain basic knowledge of Neural Networks. Acquire in depth understanding of training Deep Neural Networks. Design appropriate DNN model for supervised, unsupervised and sequence learning applications. Gain familiarity with recent trends and applications of Deep Learning.
НРС	 1 Understand parallel and pipeline processing approaches 2 Design a parallel algorithm to solve computational problems and identify issues in parallel programming. 3 Analyze the performance of parallel computing systems for clusters in terms of execution time, total parallel overhead, speedup. 4 Develop efficient and high-performance parallel algorithms using OpenMP and message passing paradigm 5 Develop high-performance parallel programming using OpenCL and CUDA framework 6 Perform the range of activities associated with High Performance Computing in Cloud Computing
DBM	 Identify drivers of digital business Illustrate various approaches and techniques for E-business and management Prepare E-business plan