Master of Technology (Computer Science and Engineering)

2019-2021 Batch

Program Outcomes (POs)

- **PO 1:** An ability to independently carry out research /investigation and development work to solve practical problems
- **PO 2:** An ability to write and present a substantial technical report / document
- **PO 3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor

ProgramSpecificOutcomes(PSO)

- ✓ **PSO 1:** Design efficient algorithms and develop effective codes for various domains including Networks and Security, Artificial Intelligence, Internet of Things, Bigdata and Cloud Technology
- ✓ **PSO 2:** Apply Software Engineering Principles and Practices to provide software solutions.

Course Outcomes (COs)

2019-21 Batch

Semester	Course Code	Course Name	Course Outcomes (COs)
1st Sem	18MTCSE101	DATA STRUCTURES	**CO1 :**Illustrate the practice of various data structures, and clarify the operations for maintaining familiar data structures.
			CO2 : Understand and analyze algorithms such as heap sort, graph traversal-based, radix-based sorting, AVL trees and hashing.
			CO3 : Choose the appropriate data structure to solve a programming problem and determine algorithm correctness and time efficiency.
			CO4 : Demonstrate various methods of organizing large amounts of data, apply and implement learned algorithm data structures to solve problems.
			CO 5:Implement and use advanced data structures (dynamic hash structures, heaps, AVL and multiway search trees, radix-based search trees).
	18MTCSE102	ADVANCES IN DATA BASE MANAGEMENT SYSTEMS	**CO1 :** Discuss the different concepts of Sidtributed Systems
			CO2 : Analyze the ORDBMS Implementation Challenges
			CO3 : Evaluate Recursive Queries
			CO4 : Classify the different data mining techniques
			CO5 : Classify the different Types of Spatial Data
	18MTCSE101L	DATA STRUCTURES LAB	**CO1 :** Illustrate the practice of various data structures, and clarify the operations for maintaining familiar data structures.
			CO2 : understand and analyze algorithms such as heap sort, graph traversal-based, radix-based sorting, AVL trees and hashing.
			CO 3: Choose the appropriate data structure to solve a programming problem and determine algorithm correctness and time efficiency.
			CO4 : Demonstrate various methods of organizing large amounts of data, apply and implement learned algorithm data structures to solve problems.
			CO5 : Implement and use advanced data structures (dynamic hash structures, heaps, AVL and multiway search trees, radix-based search trees).
	18MTCSE131	C# & .NET Concepts	**CO1 :** Demonstrate knowledge of object-oriented concepts Design user experience and functional requirements C#.NET application
			CO2 : Construct classes, methods, and assessors, and instantiate objects.
			CO3 : Understand and implement string manipulation, events and exception handling within .NET application environment.
			CO4 : Create and manipulate GUI components in C#.
	18MTCSE131L	C# & .NET Concepts Lab	**CO1 :** Understand code solutions and compile C# projects within the .NET framework.
			CO2 : Design and develop professional console and window based .NET application
			CO3 : Design and Implement Windows Applications using Windows Forms, Control Library, Advanced UI Programming & Data Binding concepts

Semester	Course Code	Course Name	Course Outcomes (COs)
			CO4 : Design and Implement database connectivity using ADO.NET in window based application.
	18MTCSE132	COMPUTER NETWORKS AND DISTRIBUTED SYSTEMS	**CO1 :** Explain about design choices at different layers in the TCP/IP protocol stack
			CO2 : Discuss about applications and Networking Technologies: RTP, RTSP, SIP, VoIP, ,IPSEC, SSL / TLS
			CO3 : Analyse a basic distributed information system.
			CO4 : Implement inter-process communication and Remote Procedure Call
			CO5 : Classify different methods for concurrency controls.
	18MTCSE132L	COMPUTER NETWORKS AND DISTRIBUTED SYSTEMS LAB	**CO1 :** Design the simulation for different routing algorithms
			CO2 : Analyze the network parameters and their performance
			CO3 : Develop Application using Inter Process Communication
			CO4 : Implement the Producer – Consumer problem using semaphores
			CO5 : Demonstrate the skill sets to trace the packet using Open Source network tools
	18MTCSE133	PRINCIPLES OF PROGRAMMING LANGUAGES	**CO1 :** Explain the major programming paradigms
			CO2 : Discuss the principles and techniques involved in design and implementation of modern programming languages
			CO3 : Discuss different Abstract Dat types
			CO4 : Explain the basic elements of prolog, application of logic programming
	18MTCSE133L	PRINCIPLES OF PROGRAMMING LANGUAGES LAB	**CO1 :** Execute the major programming paradigms
			CO2 : Discuss the principles and techniques involved in design and implementation of modern programming languages
			CO3 : Discuss different Abstract Dat types
			CO4 : Explain the basic elements of prolog, application of logic programming
	18MTCSE141	ADVANCED JAVA AND J2EE	**CO1 :**Understand the importance of extension JDBC package in Enterprise Java applications
			CO2 : Understand and use the Java Persistence Architecture API for ORM activities (JPA).
			CO3 : Apply Security in Java EE Applications.
			CO4 : Understand SOAP, Web Services and Service Oriented Architecture (SOA).
	18MTCSE142	REAL TIME EMBEDDED SYSTEMS	**CO1 :** Present the mathematical model of the system.
			CO2 : Develop real-time algorithm for task scheduling.
			CO3 :Understand the working of real-time operating systems and real-time database.
			CO4 : Design and develop protocols related to real-time communication.
	18MTCSE143	WEB TECHNOLOGIES AND E-COMMERCE	**CO1 :** Design a static webpage by applying HTML elements.
			CO2 : Apply CSS concepts for designing HTML web pages.
			CO3 : Develop DHTML pages by using JavaScript, JQuery with DOM events.
			CO4 : Define and differentiate various types of Ecommerce.
			CO5 :Discuss various Ebusiness Strategies.

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	18MTRM01	RESEARCH METHODOLOGY AND IPR	**CO1 :** Describe the writing skills to prepare a well-structured research paper or report.
			CO2 : Demonstrate the key skills needed while writing literature review.
			CO3 : Illustrate the principles, scope, aim of research ethics and ethical issues.
			CO4 : Demonstrate the process of patenting and development.
			CO5 : Dramatize the scope of Patent Rights, Licensing and transfer of technology.
			CO 6: Illustrate the new developments on IPR.
2nd Sem	18MTCSE201	OPERATING SYSTEM AND DESIGN PRINCIPLES	**CO1 :** Explain the types of operating system and its services.
			CO2 : Acquire the knowledge of Deadlock, Segmentation and Memory Management.
			CO3 : Identify the functions of Scheduling Algorithms.
			CO4 : Exemplify the concepts of Embedded Systems.
			CO5 : Explore the Computer Security Techniques and Distributed Processing techniques.
	18MTCSE202	ADVANCES SOFTWARE ENGINEERING	**CO1 :** Understand the software process models.
			CO2 : Acquire the knowledge in Software Development.
			CO3 : Understand the Software Evolution process.
			CO4 : Explain the process of Software inspections.
			CO5 : Analyze the Software Validation procedures.
	18MTCSE201L	OPERATING SYSTEM AND DESIGN PRINCIPLES LAB	**CO1 :** Demonstrate the CPU scheduling algorithms
			CO2 : Develop solutions for Multiprogramming process.
			CO3 : Implement the File Organization techniques.
			CO4 : Apply the Banker's Algorithm for Dead Lock Avoidance.
			CO5 : Simulate Paging Technique for Memory Management.
	18MTCSE231	DESIGN PATTERNS	**CO1 :** Understand the concept of Design Patterns.
			CO2 : Acquire the knowledge in Creational Patterns.
			CO3 : Explore the Structural – I Design Patterns.
			CO4 : Explain the process of Structural – II Design Patterns.
			CO5 : Analyze the Behavioural – I concept in Design Patterns.
	18MTCSE232	SOFTWARE TESTING	**CO1 :** Explore the fundamentals and activities in software testing.
			CO2 : Explain the transaction flow testing process.
			CO3 : Elucidate the paths, path products and regular expressions.
			CO4 : Analyze the techniques in logic based testing.
			CO5 : Implement graph matrices and its applications.
	18MTCSE233	DATA MINING AND DATA WAREHOUSING	**CO1 :** Implement the data warehouse architecture.
			CO2 : Explain the functionalities of data mining.
			CO3 : Explore the Association Rule Mining techniques.
			CO4 : Identify the association rules and techniques.
			CO5 : Describe the Cluster and Outlier Analysis process.
	18MTCSE241	BIG DATA ANALYTICS	**CO1 :** Identify the concepts of big data systems.
			CO2 : Describe the Streams Concepts.
			CO3 : Explain the basic idea of the Hadoop and HDFS.
			CO4 : Implement Hadoop Cluster configurations.
			CO5 : Summarize the Applications of Big Data.
	18MTCSE241L	BIG DATA	**CO1 :** Acquire the knowledge about the Hadoop

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		ANALYTICS LAB	installation process.
			CO2 : Implement the basic functions and commands in R Programming.
			CO3 : Implement the Bloom Filters on Stream Data using C++/ java.
			CO4 : Design the Flajolet-Martin Algorithm for counting distinct elements in Streaming Data.
			CO5 : Demonstrate the concepts of Term Frequency and Inverse Document Frequency.
	18MTCSE242	CLOUD COMPUTING	**CO1 :** Explore the basics of cloud computing.
			CO2 :Explain the cloud computing services and its applications.
			CO3 : Summarize the Cloud Computing Software Security Fundamentals.
			CO4 : Identify the Cloud Security Fundamentals and Challenges.
			CO5 : Implement the cloud setup in Mobile Devices.
	18MTCSE242L	CLOUD COMPUTING LAB	**CO1 :** Study of Performance evaluation Amdahl's law.
			CO2 : Implement the Instruction set measurements.
			CO3 : Create and implement the Pipelined design.
			CO4 : Study and implement the Multicomputer program
	18MTCSE243	PARALLEL COMPUTER ARCHITECTURE AND PROGRAMMING	**CO1 :** Identify the basic structure of Parallel Computer Models.
			CO2 : Explore the Processors and Memory Hierarchy process.
			CO3 : Recognize the organization of Pipelining and Superscalar Techniques.
			CO4 : Explicate the Multiprocessors and Multicomputer system process.
			CO5 : Determine the performance of Multivector and SIMD Computers.
	18MTCSE243L	PARALLEL COMPUTER ARCHITECTURE AND PROGRAMMING LAB	**CO1 :** Study of Performance evaluation Amdahl's law.
			CO2 :Implement the Instruction set measurements.
			CO3 : Create and implement the Pipelined design.
			CO4 : Study and implement the Multicomputer program.
3rd Sem	18MTCSE311	STORAGE AREA NETWORKS	**CO1 :**Understand disk drive management with RAID levels
			CO2 : Analyze NAS File I/O operations along with iSCSI, FCIP Content-Addressed Storage and virtualization
			CO3 : Analyze Backup and Recovery methods along with replication techniques.
	18MTCSE312	WIRELESS SENSOR NETWORKS	**CO1 :**Understand characteristics of WSN technology and Medium access Protocols
			CO2 : Explore data aggregation operations
			CO3 : Explore Aggregate Queries in Sensor Networks
			CO4 : Analyze different operating systems, design issues and WSN applications.
	18MTCSE313	INTERNET OF THINGS	**CO1 :**Understand the application areas of IOT
			CO2 : Realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks
			CO3 : Understand building blocks of Internet of Things and characteristics
	18MTCSE321	BUSINESS ANALYTICS	**CO1 :**demonstrate knowledge of data analytics.
			CO2 : Use technical skills in predicative to support business decision-making

Semester	Course Code	Course Name	Course Outcomes (COs)
			CO3 : Use technical skills in prescriptive modeling to support business decision-making
			CO4 : Translate data into clear, actionable insights
	18MTCSE322	INDUSTRIAL SAFETY	**CO1 :**Demonstrate knowledge of industrial safety
			CO2 : Use technical skills in maintaining equipment's, building's, cleaning safety
			CO3 : Take actionable insights
	18MTCSE323	COST MANAGEMENT OF ENGINEERING PROJECTS	**CO1 :**Demonstrate cost and time managing
			CO2 : Use soft and technical tools in designing the project
			CO3 : Take actionable insights
4TH Sem	18MTCSE41	Project Work and Dissertation	**CO1 :** Demonstrate a depth of knowledge of Computer Science Engineering
			CO2 : Undertake problem identification, formulation and solution
			CO3 : Complete an independent research project, resulting in at least a thesis publication, and research outputs in terms of publications in high impact factor journals, conference proceedings, and patents
			CO4 : Demonstrate knowledge of contemporary issues in their chosen field of research.
			CO5 : Demonstrate an ability to present and defend their research work to a panel of experts.