

Course Outcomes (COs)

Department of

Computer Science and Engineering

Programme Name : M.Tech.-Computer Science & Engineering

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Course Outcome for Master of Technology

M Tech in Computer Science Engineering -2022 Scheme

Course Outcomes of First -Year Courses

Course Name	Mathematical Foundation Of Computer Science
Course Code	22SCS11
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS11.1	Understand the concept of Vector spaces, Orthogonality and least squares, Eigen values & vectors, probability required to test the hypothesis, Fourier Series and Transform
22SCS11.2	Apply the above acquired knowledge to solve the problems in Computer Science and Engineering.
22SCS11.3	Analyze image and signal processing problems using appropriate techniques .
22SCS11.4	Apply the techniques of singular value decomposition for data compression, least square approximation in solving consistent linear systems and take decision using t test, chisquare test & Analysis of Variance.

Course Name	Fundamentals of Data Sciences
Course Code	22SCS12
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS12.1	Understand the concept of data science, its fundamentals and process in data science.
22SCS12.2	Demonstrate machine learning algorithms necessary for data sciences.
22SCS12.3	Illustrate the process of feature selection and analysis of data analysis algorithms.
22SCS12.4	Demonstrate visualizing the data and ethical considerations in data science.

Course Name	Advances in Computer Networks
Course Code	22SCS13
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS13.1	Understand the concept of network services, protocols and architectures, explain why they are layered.
22SCS13.2	Demonstrate key Internet applications and their associated protocols, leveraging the sockets API to develop custom applications, including client-server models and web services.
22SCS13.3	Implement Internet applications and protocols, showcasing practical skills in developing custom applications.
22SCS13.4	Demonstrate the ability to design and implement effective communication mechanisms, incorporating techniques like connection establishment, queuing theory, and recovery strategies for reliable and efficient networked applications.

Course Name	Internet of Things and Applications
Course Code	22SCS14
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS14.1	Illustrate the schemes for the applications of IOT in real time scenarios.
22SCS14.2	Demonstrate use of the Internet resources.
22SCS14.3	Model the Internet of things to business.
22SCS14.4	Analyze the practical knowledge through different case studies.

Course Name	Advanced Algorithms
Course Code	22SCS15
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS15.1	Design and implement iterative algorithms for specific problems.
22SCS15.2	Design and implement recursive algorithms for specific problems.
22SCS15.3	Design optimization algorithms in specific applications.
22SCS15.4	Apply Probabilistic and Randomized Algorithms.

Course Name	Research Methodology and IPR
Course Code	22RMI16
Course outcomes (COs): At the end of the course the student will be able to:	
22RMI16.1	Understand the concept of conducting independent research, showcasing proficiency in defining research questions, selecting appropriate methodologies, and managing the research process autonomously.
22RMI16.2	Demonstrate various research designs, sampling strategies, and measurement techniques.
22RMI16.3	Apply statistical techniques to analyze research findings, contributing to a deeper understanding of the implications of the collected data.
22RMI16.4	Demonstrate a strong awareness of ethical considerations in research, applying ethical principles throughout the research process.

Course Name	Big Data Analytics
Course Code	22SCS21
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS21.1	Interpret the management of big data using Hadoop and SPARK technologies, establishing a foundational understanding of their applications and significance in large-scale data processing.
22SCS21.2	Illustrate the concepts of Hadoop Distributed File System (HDFS) and MapReduce, gaining insights into their fundamental principles and their roles in distributed data storage and processing.
22SCS21.3	Develop practical skills in installing, configuring, and running Hadoop and HDFS.
22SCS21.4	Apply map-reduce analytics using Hadoop and related tools.

Course Name	Wireless Networks & Mobile Computing
Course Code	22SCS231
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS231.1	Describe state of art techniques in wireless communication.
22SCS231.2	Discover CDMA, GSM. Mobile IP, WiMAX
22SCS231.3	Demonstrate program for CLDC and security concerns.
22SCS231.4	Illustrate MIDP let model for wireless secured communication

Course Outcomes of Second -Year Courses

Course Name	Cloud Computing
Course Code	22SCS31
Course outcomes (COs): At the end of the course the student will be able to:	
22SCS31.1	Understand the strengths and limitations of cloud computing.
22SCS31.2	Identify the architecture, infrastructure and delivery models of cloud computing
22SCS31.3	Demonstrate the working of VM and VMM on any cloud platforms(public/private), and run a software service on that.
22SCS31.4	Identify the known threats, risks, vulnerabilities and privacy issues associated with Cloud based IT services.

M Tech in Computer Science Engineering- 2020 Scheme

Course Outcomes of First -Year Courses

Course Name	Mathematical Foundation Of Computer Science
Course Code	20SCS11
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS11.1	Understand the concept of Vector spaces, Orthogonality and least squares, Quadratic forms, Statistical techniques for data analysis, Probability & testing of hypothesis.
20SCS11.2	Apply the above acquired knowledge to solve the problems in Computer Science and Engineering.
20SCS11.3	Analyze image and signal processing problems using appropriate techniques .
20SCS11.4	Apply the techniques of singular value decomposition for data compression, least square approximation in solving consistent linear systems and take decision by analyzing data using statistical techniques, t test and chisquare test.

Course Name	Artificial Intelligence and Machine Learning
Course Code	20SCS12
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS12.1	Understand the concept of Artificial intelligence and identify problems for AI and characterize the search techniques to solve problems and recognize the scope of classical search techniques.
20SCS12.2	Demonstrate role of AI and use of Logic in solving AI problems.
20SCS12.3	Demonstrate handling of uncertain knowledge and reasoning in probability theory.
20SCS12.4	Apply the knowledge of Artificial Intelligence in Learning methods.

Course Name	Advanced Database Management Systems
Course Code	20SCS13
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS13.1	Understand the concept of high-performance database like parallel and distributed database.
20SCS13.2	Infer and represent the real-world data using object-oriented database.
20SCS13.3	Interpret rule set in the database to implement data warehousing of mining.
20SCS13.4	Discover and design database for recent applications database for better interoperability.

Course Name	Advanced Algorithms
Course Code	20SCS14
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS14.1	Design and implement iterative algorithms for specific problems.
20SCS14.2	Design and implement recursive algorithms for specific problems.
20SCS14.3	Design optimization algorithms in specific applications.
20SCS14.4	Apply Probabilistic and Randomized Algorithms.

Course Name	Internet of Things and Applications
Course Code	20SCS15
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS15.1	Demonstrate schemes for the applications of IOT in real time scenarios.
20SCS15.2	Demonstrate use of the Internet resources.
20SCS15.3	Model the Internet of things to business.
20SCS15.4	Analyze the practical knowledge through different case studies.

Course Name	Data Science
Course Code	20SCS21
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS21.1	Understand the concept of data science, its fundamentals and process in data science.
20SCS21.2	Demonstrate machine learning algorithms necessary for data sciences.
20SCS21.3	Illustrate the process of feature selection and analysis of data analysis algorithms.
20SCS21.4	Demonstrate visualizing the data and ethical considerations in data science.

Course Name	Semantic Web and Social Networks
Course Code	20SCS22
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS22.1	Demonstrate the semantic web technologies like RDF Ontology and others.
20SCS22.2	Demonstrate a comprehensive understanding of various semantic web applications.
20SCS22.3	Analyze the architectures and challenges in building social networks.
20SCS22.4	Analyze the performance of social networks using electronic sources.

Course Name	Block chain Technology
Course Code	20SCS23
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS23.1	Understand types, benefits, and limitations of blockchain for critical assessment of its applicability in various domains.
20SCS23.2	Demonstrate foundational concepts of blockchain decentralization and cryptography, understanding their role in ensuring security and transparency.
20SCS23.3	Demonstrate features of Bitcoin and analyze alternative cryptocurrencies, gaining insights into their unique characteristics and applications.
20SCS23.4	Apply smart contracts, summarizing blockchain features beyond currencies and exploring its applications in diverse industries.

Course Outcomes of Second -Year Courses

Course Name	Deep Learning
Course Code	20SCS31
Course outcomes (COs): At the end of the course the student will be able to:	
20SCS31.1	Identify the deep learning algorithms which are more appropriate for various types of learning tasks in various domains.
20SCS31.2	Implement deep learning algorithms and solve real-world problems.
20SCS31.3	Execute performance metrics of Deep Learning Techniques.
20SCS31.4	Compare performance of various deep learning algorithms used in solving specific problems.