

DEPARTMENT OF COMPUTER SCIENCE (M.Sc)

Program Specific Outcomes (PSO)

PSO 1.

The ability to apply theoretical foundations of Computer Science and problem-solving skills through programming techniques for complex real time problems using appropriate data structures and algorithms.

PSO 2.

The ability to design/develop hardware and software interfaces along with database management to meet the needs of industry.

PSO 3.

The ability to demonstrate personal, organizational and entrepreneurship skills through critical thinking, engage themselves in life-long learning by following innovations in business, science & technology

PSO 4.

Ethics on Profession, Environment and Society: Exhibiting professional ethics to maintain the integrality in a working environment and also have concern on societal impacts due to computer-based solutions for problems.

DEPARTMENT OF COMPUTER SCIENCE (M.Sc)

Program Specific Outcomes (PSO)

M.Sc Sem - I

❖ M.Sc Semester - I (MCS1T01) Artificial Intelligence

- CO 1: Evaluate Artificial Intelligence (AI) methods and describe their foundations.
- CO 2: Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation and learning.
- CO 3: Demonstrate knowledge of reasoning and knowledge representation for solving real world problems.
- CO 4: Analyze and illustrate how search algorithms and planning play a vital role in problem solving.

❖ M.Sc Semester - I (MCS1T02) Compiler Construction

- CO 5: Demonstrate the knowledge of Lexical Analysis
- CO 6: Derive an appropriate model of code generation.

❖ M.Sc Semester - I (MCS1T03) Computer Architecture and Organisation

- CO 1: Provide fundamentals on machine instructions and addressing modes.
- CO 2: Comprehend the various algorithms for computer arithmetic.
- CO 3: Analyse the performance of various memory modules in memory hierarchy.
- CO 4: Compare and contrast the features of I/O devices and parallel processors.
- CO 5: Outline the evaluation of memory organization.
- CO 6: Analyse the performance of Arithmetic logic unit, memory and CPU.

❖ **M.Sc Semester - I (MCS1T03) Discrete Mathematics**

CO 1: Observe the various types of sets, functions and relations.

CO 2: Understand the concepts of group theory.

CO 3: Understand the concepts of combinatorics.

CO 4: Understand the concepts of graph theory and its applications.

CO 5: Learning logic and Boolean algebra. Using these concepts to solve the problems

❖ **M.Sc Semester - I (MCS1T04) Research Methodology**

CO 1: The basic concept of research and its methodologies, Identify appropriate research topics, select and define appropriate research problems and parameters.

CO 2: Prepare a project (to undertake a project)

CO 3: Organize and conduct research in a more appropriate manner, writing research reports and thesis.

M.Sc Sem - II

❖ M.Sc Semester - II (MCS2T05) Cloud Computing

- CO 1:** Analyze the trade-offs between deploying applications in the cloud and over the local infrastructure.
- CO 2:** Compare the advantages and disadvantages of various cloud computing platforms.
- CO 3:** Program data intensive parallel applications in the cloud.
- CO 4:** Analyze the performance, scalability, and availability of the underlying cloud technologies and software.
- CO 5:** Identify security and privacy issues in cloud computing.

❖ M.Sc Semester - II (MCS2T06) Machine Learning

- CO 1:** Understand the concepts of various machine learning strategies.
- CO 2:** Handle computational data and learn ANN learning models.
- CO 3:** Solve real world applications by selecting suitable learning models.
- CO 4:** Boost the performance of the model by combining results from different approaches.

❖ M.Sc Semester - II (MCS2T07) R Programming

- CO 1:** Develop an R script and execute it.
- CO 2:** Install, load and deploy the required packages, and build new packages for sharing and reusability.
- CO 3:** Extract data from different sources using API and use it for data analysis.
- CO 4:** Visualize and summarize the data.
- CO 5:** Design application with database connectivity for data analysis.

❖ M.Sc Semester - II (MCS2T07) Neural Network

- CO 1:** Ability to understand the concepts of Neural Networks.
- CO 2:** Ability to select the Learning Networks in modeling real world systems.

M.Sc Sem - III

❖ M.Sc Semester - III (MCS3T08) Advanced Software Engineering

- CO 1:** To demonstrate an understanding of advanced knowledge of the practice of software engineering, design, validation, test and deployment.
- CO 2:** Use modern engineering principles, processes, and technologies to solve difficult engineering issues and tasks.
- CO 3:** Demonstrate leadership and the ability to participate in teamwork in an environment with different disciplines of engineering, science and business.
- CO 4:** Identify the proper ethical, financial, and environmental effects of their work.

❖ M.Sc Semester - III (MCS3T09) Network Security

- CO 1:** Classify the symmetric encryption techniques.
- CO 2:** Illustrate various Public key cryptographic techniques.
- CO 3:** Evaluate the authentication and hash algorithms.
- CO 4:** Basic concepts of system level security.

❖ M.Sc Semester - III (MCS3T10) Digital Image Processing

- CO 1:** Know and understand the basics and fundamentals of digital image processing, digitization, sampling, quantization, and 2D-transforms.
- CO 2:** Operate on images using the techniques of smoothing, sharpening and enhancement. Understand the restoration concepts and filtering techniques.

❖ M.Sc Semester - III (MCS3T11) Computer Graphics

- CO 1:** Students can animate scenes of entertainment.
- CO 2:** Will be able to work in computer aided design for content presentation.
- CO 3:** Better analogy data with pictorial representation.

❖ M.Sc Semester - III (MCS3T11) Internet Of Things

- CO 1:** Able to understand the application areas of IoT
- CO 2:** Able to realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks
- CO 3:** Able to understand building blocks of Internet of Things and characteristics.

M.Sc Sem - IV

❖ M.Sc Semester - IV (MCS4T12) Big Data Analytics

- CO 1:** Classify and categorize different types of Data Analytics
- CO 2:** Frame Business Architecture
- CO 3:** Understand the use of Information and Communication Technology
- CO 4:** Differentiate Between Traditional Data Analysis and Big Data Analytics
- CO 5:** Evaluate different Enterprise Technologies and Big Data Business Intelligence

❖ M.Sc Semester - IV (MCS4T13) Computer Vision

- CO 1:** Implement fundamental image processing techniques required for computer vision.
- CO 2:** Develop computer vision applications.

❖ M.Sc Semester - IV (MCS4T14) Deep Learning

- CO 1:** Solve various deep learning problems
- CO 2:** Apply autoencoders for unsupervised learning problems
- CO 3:** Implement Convolutional Neural Networks to image classification problems
- CO 4:** Apply recurrent neural network to sequence Learning Problem.

❖ M.Sc Semester - IV (MCS4T15) Design and Analysis of Algorithm

- CO 1:** Produce thorough proofs of an algorithm's soundness.
- CO 2:** Demonstrate about important algorithms and data structures.
- CO 3:** Use key analytical techniques and concepts for algorithmic design.
- CO 4:** Combine effective algorithms in typical engineering design scenarios.

❖ M.Sc Semester - IV (MCS4T15) Cyber Forensics

- CO 1:** To learn investigation tools and techniques, analysis of data to identify evidence.
- CO 2:** To analyze the technical Aspects & Legal Aspects related to cyber crime.