MASTER OF SCIENCE (COMPUTER SCIENCE)

(M.Sc. Computer Science)

PROGRAMME OUTCOMES

PO1: Acquire advanced knowledge and a critical understanding of emerging developments and issues relating to the domain of computer science as life-long skills.

PO2: Exhibit an advanced understanding of the principles, methods, and techniques applicable to theoretical and practical contexts.

PO3: Extrapolate acquired knowledge and skills to real-life situations, new and unfamiliar contexts, for problem solving and create innovative solutions.

PO4: Demonstrate the ability to apply conceptual, operational, and technical knowledge with a range of cognitive and practical skills.

PO5: Apply advanced knowledge of research methods to conduct research and investigations to formulate evidence-based solutions using a systematic problem solving approach for complex problems that require higher order thinking.

PO6: Communicate their solutions, application, research findings and professional insights in a well-structured and coherent manner to both specialist and non-specialist audiences.

PO7: Engage in self-directed learning to continually upgrade their knowledge and skills, including research competencies along with ethical standards and practices in their professional and academic endeavours for a life-long learning.

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1st SEMESTER

MAJOR	SKILL ENHANCEMENT COURSE
Discrete Mathematical Structures, Computer Networks, Computer Fundamentals and Programming in C, Computer Organization and Architecture, Database Management Systems	Web Development-I

Name of the Course- Discrete Mathematical Structures
Course Code- 24CSC201DS01

Course Outcomes-

CO1: Understand and apply the basic concepts of set theory.
CO2: Comprehend and use propositions, logical operators, and expressions.
CO3: Understand the use of quantifiers and inference for propositions and predicates.
CO4: Understand the fundamental concepts, laws, and rules of Boolean algebra
CO5: Understand the concept of formal languages and automata theory.

Name of the Course- Computer Networks
Course Code- 24CSC201DS02

Course Outcomes-

CO1: Independently understand basic computer network technology.
CO2: Understand and explain Data Communications System and its components, different types of network topologies and protocols.
CO3: Enumerate the layers of the OSI model and TCP/IP. Explain the function(s) of each layer, different types of network devices and their functions within a network.
CO4: Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation.

CO5: Understanding High-Speed LANs and concept of Network Security.

Name of the Course- Computer Fundamentals and Programming in C
Course Code - 24CSC201DS03

CO1: Understand the basic concepts of data and information, the components and classification of computers.
CO2: Develop problem-solving skills using flowcharts, decision tables, pseudocode, and algorithms.
CO3: Demonstrate proficiency in C programming using arrays, strings, pointers and library functions.
CO4: Perform file operations using C library functions to construct robust programs.
CO5: Develop efficient C programs for newer problems/tasks..

Name of the Course- Computer Organization and Architecture
Course Code- 24CSC201DS04

Course Outcomes-

CO1: Understand the basic structure and operations of a computer system.
CO2: Demonstrate knowledge about various instruction sets, addressing modes and learning to develop Assembly programs.
CO3: Analyze different types of memory organization and its roles in computer performance and efficiency.
CO4: Learn the principles of computer architecture and explore concept of parallel processing.
CO5: Critically analyse various aspects of advanced computer architecture.

Name of the Course- Database Management Systems
Course Code- 24CSC201DS05

Course Outcomes-

CO1: Understand Database Concepts and Architectures.
CO2: Design and Implement Databases.
CO3: Understand and Implement Database Security and Integrity.
CO4: Master Database Backup and Recovery Techniques.
CO5: Efficiently Query and Manipulate Data, develop and optimize Database applications.

Name of the Course- Web Development-I **(Skill Enhancement Course)**
Course Code- 24CSC201MV01

Course Outcomes-

CO1: Understand the evolution of the internet, various types of computer networks, and their protocols, and configure and manage internet connections and email services.

CO2: Utilize web browsers and search engines efficiently, understand web security, and employ internet tools for communication such as online chatting, messaging, and video conferencing.

CO3: Develop and publish web pages using HTML, including the use of various HTML elements, linking techniques, and layout design.

CO4: Apply CSS for enhancing web page presentation and implement client-side programming using JavaScript.

CO5: Understand the basics of XML and its relevance in web design.

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2nd SEMESTER

MAJOR	VOCATIONAL COURSE
Data Structures Using C, Operating Systems, Object Oriented Programming using C++, Artificial Intelligence, Software Engineering	Multimedia and Animation

Name of the Course- Data Structures Using C
Course Code- 24CSC202DS01

Course Outcomes-

CO1: Understand the fundamental concepts of data structures.

CO2: Design and implement various data structures to solve computational problems related to various sorting and searching techniques.

CO3: Apply data structures for efficient storage and retrieval of information.
CO4: Develop programs using C for implementation of all types of data structures covered.
CO5: Implement file handling operations in a C programming environment.

Name of the Course- Operating Systems
Course Code- 24CSC202DS02

Course Outcomes-
CO1: Understand the elementary concepts of an Operating system.
CO2: Perform CPU scheduling to achieve maximum throughput from the system.
CO3: Manage the memory space more effectively and efficiently by implementing paging, Segmentation.
CO4: Compare the performance of any system in terms of different performance evaluators.
CO5: Work efficiently in Unix/Linux environment.

Name of the Course- Object Oriented Programming using C++
Course Code- 24CSC202DS03

Course Outcomes-
CO1: Use the characteristics of an object-oriented programming language in a program.
CO2: Use the basic object-oriented design principles in computer problem solving.
CO3: Apply C++ features to program design and implementation.
CO4: Design and implement programs of Constructor, Destructor, and Inheritance.
CO5: Design and implement Polymorphism, Exception handling, Templates and Working with files.

Name of the Course- Artificial Intelligence
Course Code- 24CSC202DS04

Course Outcomes-

CO1: Grasp core AI concepts and problem-solving techniques.
CO2: Utilize knowledge representations methods in AI systems.
CO3: Comprehend the role and development of expert systems and explore perception, and learning concepts in AI.
CO4: Grasp the fundamental of Neural Network and Fuzzy Logic.
CO5: Learning Prolog and applying for AI programming applications.

Name of the Course- Software Engineering
Course Code- 24CSC202DS05

Course Outcomes-

CO1: Apply software engineering principles and methodologies to address the challenges of software development.
CO2: Develop skills for effective software project management, including cost estimation, scheduling, and quality assurance practices.
CO3: Apply software design principles and implement well-structured and maintainable software solutions.
CO4: Develop and utilize various software testing methodologies to identify and rectify defects within the code.
CO5: To understand the concepts of Software Re-Engineering and Reverse Engineering and Configuration management.

Name of the Course- Multimedia and Animation **(Skill Enhancement Course)**
Course Code- 24CSC202SE01

Course Outcomes-

CO1: Utilize the various components of multimedia (text, images, audio, video) and basic animation principles to create effective presentations and applications.
CO2: Integrate hypertext for navigation and storytelling within multimedia projects.
CO3: Learn to apply tools and techniques to add pictures, graphics, sound, and animation to multimedia projects.

CO4: Leverage multimedia authoring tools to develop engaging and interactive multimedia presentations and applications.
CO5: Make proficient use of Multimedia/Animation software for creating good multimedia based application.CO4: To learn and understand the Production Planning: Concept & techniques, Production Control techniques.