Name of the Programme	**Master of Science in Computer science**
Short Name of the Programme	**MSc CS**
Code of the Programme	**CSS**

PROGRAMME OUTCOMES - POs

Sl. NO	CO No:	Programme Outcomes
1	PO 1	Attained in depth knowledge of foundations of computing.
2	PO 2	Development of soft skills and practicing professional ethics.
3	PO 3	An ability to understand, analyze and design efficient algorithms.
4	PO 4	Apply computer science theory and software development concepts to construct computing-based solutions.
5	PO 5	To make them employable according to the current demand of the IT Industry and responsible citizens.
6	PO 6	An ability to understand and solve emerging research problems
7	PO 7	Develop programming skills to implement research projects.

PROGRAMME SPECIFIC OUTCOMES - PSOs

Sl. NO	CO No:	Programme Specific Outcomes
1	PSO 1	Evaluate complex real-world problems by applying principles of theoretical computing, engineering and Mathematical models.
2	PSO 2	Modern Tool usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.
3	PSO 3	Understand all dimensions of the concepts of software application development and projects.
4	PSO 4	Aware the students to publish their work in reputed journals.
5	PSO 5	Conceive Project Management capabilities to solve real world problems in accordance to the needs of the industry, in a specific time frame.
6	PSO 6	Design and develop computer programs/computer-based systems in the field of Computer Sciences viz. Computational Intelligence, Machine learning, Web technology, Information Retrieval Systems, Data Analytics, Communication and networking.
7	PSO 7	To prepare the students to address the challenging requirements coming from the

COURSE OUTCOMES - COs

Semester	Course code	Course Title	CO No:	Course Outcomes
	CSS1C01	DISCRETE MATHEMATICAL STRUCTURES	CO1	To introduce discrete mathematics concepts necessary to understand basic foundation of Computer Science.
	CSS1C02	ADVANCED DATA STRUCTURES	CO1	To introduce basic and advanced data structures dealing with algorithm development
			CO2	To introduce basic and advanced data structures dealing with problem solving.
	CSS1C03	THEORY OF COMPUTATION	CO1	To provide the students with an understanding of basic concepts in the theory of computation.
	CSS1C04	THE ART OF PROGRAMMING	CO1	To learn the art of designing algorithms and flowcharts.
			CO2	To introduce the concept of algorithmic approach for solving real-life problems.

1	CSS1C04	PROGRAMMING METHODOLOGY	CO3	To develop competencies for the design and coding of computer programs.
			CO4	To learn designing programs with advanced features of C.
	CSS1C05	COMPUTER ORGANIZATION & ARCHITECTURE	CO1	To familiarize with the digital fundamentals
			CO2	To familiarize computer organization
			CO3	To familiarize computer architecture
			CO4	To familiarize assembly language programming
	CSS1L01	PRACTICAL I	CO1	To practically implement the theory portions covered in The Art of Programming Methodology (CSS1C04)
			CO2	To practically implement the theory portions covered in Advanced Data Structures (CSS1C02).
	CSS1A01	AUDIT COURSE: INTRODUCTION TO RESEARCH (ABILITY ENHANCEMENT	CO1	Understand research terminology Be aware of the ethical principles of research
			CO2	Identify the components of a literature review process
			CO3	Critically analyse published research
			CO4	To introduce research methods in the field of computer Science
2	CSS2C06	DESIGN AND ANALYSIS OF ALGORITHMS	CO1	To introduce the concept of algorithmic approach for solving real-life problems.
			CO2	To teach basic principles and techniques of computational complexity.
			CO3	To familiarize with parallel algorithms and related techniques.
	CSS2C07	OPERATING SYSTEM CONCEPTS COURSE	CO1	Introduce the underlying principles of an operating system.
			CO2	Exposure of multi programming, virtual memory and resource management concepts.
			CO3	Case study of public and commercially available operating systems
	CSS2C08	COMPUTER NETWORKS	CO1	To provide the student with a top down approach of networking starting from the application layer.
			C02	To introduce computer networking in the back drop of Internet protocol stack.
	CSS2C09	COMPUTATIONAL INTELLIGENCE	CO1	To introduce concepts of Artificial Intelligence
			CO2	To introduce concepts of Machine Learning.
	CSS2C10	PRINCIPLES OF SOFTWARE ENGINEERING	C01	To develop familiarity with software engineering principles and practices.
			CO2	To have an understanding about the process of product/ literature survey, techniques of problem definition, and methods of report writing.
	CSS2L02	PRACTICAL II	CO1	To practically implement the theory portions covered in the courses Operating System Concepts (CSS2C07)
			CO2	To practically implement the theory portions covered in the courses Computer Networks (CSS2C08)
			CO3	To extend the programming knowledge acquired through course The Art of Programming Methodology (CSS1C04).
	CSS2A02	TERM PAPER (PROFESSIONAL COMPETENCY AUDIT COURSE)	CO1	To introduce the student to the techniques of literature survey.
			CO2	To acquaint him/her with the process of presenting his/her work through seminars and technical reports.
		ADVANCED DATABASE	CO1	To understand the relational model, and know how to translate requirements captured in an Entity-Relationship diagram into a relational schema.
			CO2	To reason about dependencies in a relational schema.

3	CSS3C11	ADVANCED DATABASE MANAGEMENT SYSTEM	CO3	To understand normal form schemas, and the decomposition process by which normal forms are obtained.
			CO4	To familiarize with advanced SQL' statements.
			CO5	To understand advanced features of database technologies.
	CSS3C12	OBJECT ORIENTED PROGRAMMING CONCEPTS	CO1	To learn object oriented concepts
			CO2	To learn programming concepts
			CO3	To learn methodologies and to learn its implementation using Java.
	CSS3C13	PRINCIPLES OF COMPILERS	CO1	To introduce the fundamental concepts of compiler design
			CO2	To introduce the various phases of compiler design.
	CSS3L03	PRACTICAL III	CO1	To practically implement the theoretical aspects covered in Advanced Database Management System (CSS3C11) and Object Oriented Programming Concepts (CSS3C12) and to extend the programming knowledge acquired through The Art of Programming Methodology (CSS1C04) to encompass object oriented techniques.
	CSS3E01d	BIOINFORMATICS	CO1	Expose students to the popular genomic and proteomic databases
			CO2	to impart knowledge in processing and analysing genomic data and to introduce advanced topics in Bioinformatics.
	CSS3E02b	WIRELESS & MOBILE NETWORKS	CO1	To understand the fundamental concepts of wireless and mobile networks.
			CO2	To familiarize with wireless application Protocols to develop mobile content applications.
			CO3	To understand about the security aspects of wireless networks.
			CO4	To learn programming in the wireless mobile environment.
4	CSS4P01	PROJECT WORK	CO1	To give a practical exposure to the process of software development life cycle.
			CO2	To develop a quality software solution by following the software engineering principles and practices.
			CO3	Students are also encouraged to take up a research oriented work to formulate a research problem and produce results based on its implementation/simulation/ experimental analysis.
	CSS4E03a	DATA COMPRESSION	CO1	To understand the physical significance of some basic concepts of information theory including entropy, average mutual information and the rate distortion bound.
			CO2	To learn the design of entropy codes including Huffman codes and arithmetic coding.
			CO3	To understand the operation of lossless compression schemes.
			CO4	To understand the operation of popular lossy compression schemes including delta modulation, differential pulse code modulation, transform coding, and vector quantization.
	CSS4E04a	DIGITAL IMAGE PROCESSING	CO1	To be familiar with processing of the images
			C02	To be familiar with recognition of the pattern
			C03	To be familiar with applications.