POSTGRADUATE PROGRAMME: COURSE OUTCOME

Name of the Programme: M.Sc. (Computer Science)

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
M.Sc. I (Computer Science)	CSUT111	Paradigm of Programming Language.	CO1	To Prepare student to think about programming languages analytically: Separate syntax from semantics.
			CO2	Compare programming language designs.
			CO3	Understand their strengths and weaknesses.
			CO4	Learn new languages more quickly
			CO5	Understand basic language implementation techniques.
			CO6	Learn small programs in different programming Languages.
M.Sc. I (Computer Science)	CSUT112	Design and Analysis of Algorithm	CO1	To design the algorithms
			CO2	To select the appropriate algorithm by doing necessary analysis of algorithms.
			CO3	To learn basic Algorithm Analysis techniques and understand the use of asymptotic notation.
			CO4	Understand different design strategies.
			CO5	Understand the use of data structures in improving algorithm performance.
			CO6	Understand classical problem and solutions.
			CO7	Learn a variety of useful algorithms.
			CO8	Understand classification of problems.
			CO9	To provide foundation in algorithm design and analysis.
			CO10	To develop ability to understand and design algorithms in context of space and time complexity.
M.Sc. I (Computer Science)	CSUT113	Database Technologies	CO1	Provide an overview of the concept of NoSQL technology.
			CO2	Provide an insight to the different types of NoSQL databases
			CO3	Make the student capable of making a choice of what database technologies to

					use, based on their application needs.
M.Sc. I (Computer Science)	CSDT114A	Cloud Computing	CO1		To understand the principles and paradigm of Cloud Computing.
			CO2		To appreciate the role of Virtualization Technologies.
			CO3		Ability to design and deploy Cloud Infrastructure.
			CO4		Understand cloud security issues and solutions.
M.Sc. I (Computer Science)	CSDP114A	Cloud Computing Practical Assignments	CO1		To understand the principles and paradigm of Cloud Computing.
			CO2		To appreciate the role of Virtualization Technologies.
			CO3		Ability to design and deploy Cloud Infrastructure.
			CO4		Understand cloud security issues and solutions.
M.Sc. I (Computer Science)	CSDT114B	Artificial Intelligence	CO1		To learn various types of algorithms useful in Artificial Intelligence (AI).
			CO2		To convey the ideas in AI research and programming language related to emerging technology.
			CO3		To understand the numerous applications and huge possibilities in the field of AI that goes beyond the normal human imagination.
M.Sc. I (Computer Science)	CSDP114B	Artificial Intelligence Practical	CO1		To learn various types of algorithms useful in Artificial Intelligence (AI).
			CO2		To convey the ideas in AI research and programming language related to emerging technology.
			CO3		To understand the numerous applications and huge possibilities in the field of AI that goes beyond the normal human imagination.
M.Sc. I (Computer Science)	CSDT114C	Web Services	CO1		To understand the details of web services technologies like WSDL,UDDI, SOAP
			CO2		To learn how to implement and deploy web service client and server
			CO3		To explore interoperability between different frameworks
			CO4		To understand the concept of RESTful system.
			CO5		Web Services Practical Assignments
			CO1		To understand the details of web

					services technologies like WSDL,UDDI, SOAP
M.Sc. I (Computer Science)	CSDP114C	Web Services Practical Assignments	CO2		To learn how to implement and deploy web service client and server
			CO3		To explore interoperability between different frameworks
			CO4		To understand the concept of RESTful system.
			CO5		Web Services Practical Assignments
M.Sc. I (Computer Science)	CSUP115	PPL and Database Technologies Practical	CO1		To Learn in SCALA PROGRAMS(Control Structures, Arrays, String, Classes and Objects, List, Map, Set)
			CO2		To learn creation of databases, collections, queries and aggregate framework in MongoDB of NoSQL.
			CO3		To learn creation of databases in graph model. Visualize the models after creation, Return properties of nodes, Return the nodes labels, Return the relationships with its properties and queries on it in Neo4j of NoSQL.

SEMESTER II

M.Sc. I (Computer Science)	CSUT121	Advanced Operating System	CO1		Course teaches Advanced Operating Systems Concepts using Unix/Linux
			CO2		Course strikes a delicate balance between theory and practical applications In fact, most Units start with the theory and then switches focus on how the concepts are implemented in a C program.
			CO3		Course describes the programming interface to the Unix/Linux system - the system call interface. It is intended for anyone writing C programs that run under Unix/Linux.
			CO4		course provides an understanding of the functions of Operating Systems
			CO5		It also provides provide an insight into functional modules of Operating Systems.
			CO6		It discusses the concepts underlying in the design and implementation of Operating Systems.
M.Sc. I (Computer	CSUT122	Mobile Technologies	CO1		To impart basic understanding of the wireless communication systems.

Science)			CO2	To expose students to various aspects of mobile and ad-hoc networks.
			CO3	Understand the issues relating to Wireless applications.
			CO4	Understand the Mobile security.
M.Sc. I (Computer Science)	CSUT123	Software Project Management	CO1	Software Metrics and Project Management covers skills that are required to ensure successful medium and large scale software projects.
			CO2	It examines Requirements Elicitation, Project Management, Verification &Validation and Management of Large Software Engineering Projects.
			CO3	Students learn to select and apply project management techniques for process modeling, planning, estimation, process metrics and risk management; perform software verification and validation using inspections, design and execution of system test cases.
M.Sc. I (Computer Science)	CSDT124A	Project Guidelines	CO1	To understand Analysis and Design implementation & testing of real live project
			CO2	To make technically booster.
M.Sc. I (Computer Science)	CSDP124A	Project Related Assignments	CO1	To understand Analysis and Design implementation & testing of real live project
			CO2	To make technically booster.
M.Sc. I (Computer Science)	CSDT124B	Human Computer Interaction	CO1	Design effective dialog for HCI.
			CO2	Design effective HCI for individuals and persons with disabilities.
			CO3	Assess the importance of user feedback.
			CO4	Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Web sites.
			CO5	Develop meaningful user interface.
M.Sc. I (Computer Science)	CSDP124B	Human Computer Interaction Practical	CO1	Design effective dialog for HCI.
			CO2	Design effective HCI for individuals and persons with disabilities.
			CO3	Assess the importance of user feedback.
			CO4	Explain the HCI implications for

		Assignments			designing multimedia/ ecommerce/ e-learning Websites.
			CO5		Develop meaningful user interface.
M.Sc. I (Computer Science)	CSDT124C	Soft Computing	CO1		To introduce the ideas of soft computational techniques based on human experience.
			CO2		To generate an ability to design, analyze and perform experiments on real life problems using various Neural Learning Algorithms. To conceptualize fuzzy logic and its implementation for various real world applications.
			CO3		To apply the process of approximate reasoning using Neuron Fuzzy Modeling.
			CO4		To provide the mathematical background to carry out optimization using genetic algorithms.
M.Sc. I (Computer Science)	CSDP124C	Soft Computing Practical Assignment	CO1		To introduce the ideas of soft computational techniques based on human experience.
			CO2		To generate an ability to design, analyze and perform experiments on real life problems using various Neural Learning Algorithms. To conceptualize fuzzy logic and its implementation for various real world applications.
			CO3		To apply the process of approximate reasoning using Neuron Fuzzy Modeling.
			CO4		To provide the mathematical background to carry out optimization using genetic algorithms.
M.Sc. I (Computer Science)	CSUP125	Practical on Advanced OS & Mobile Technologies	CO1		Course strikes a delicate balance between theory and practical applications In fact, most Units start with the theory and then switches focus on how the concepts are implemented in a C program.
			CO2		Course describes the programming interface to the Unix/Linux system - the system call interface. It is intended for anyone writing C programs that run under Unix/Linux.
			CO3		Understand the issues relating to

				Wireless applications.
			CO4	Understand the Mobile security.

SEMESTER III				
M.Sc. II (Computer Science)	CSUT231	Software Architecture and Design Patterns	CO1	Recognize the characteristics of patterns that make it useful to solve real-world problems.
			CO2	Process available data using python libraries and predict outcomes using Machine Learning algorithms to solve given problem.
			CO3	Able to use specific frameworks as per applications need.
			CO4	To understand about design pattern.
			CO5	Design java application using design pattern techniques.
M.Sc. II (Computer Science)	CSUT232	Machine Learning	CO1	Recognize the characteristics of machine learning that make it useful to real-world problems.
			CO2	Process available data using python libraries and predict outcomes using Machine Learning algorithms to solve given problem.
			CO3	Able to estimate Machine Learning models efficiency using suitable metrics..
			CO4	Design application using machine learning techniques.
M.Sc. II (Computer Science)	CSUT233	Web Frameworks	CO1	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
			CO2	Students will know the powerful way to develop the web application in Python
			CO3	Students will understand what really the asynchronous programming.
			CO4	Build and deploy robust Django Web App.
			CO5	Integrate with Restful web services.
M.Sc. II (Computer Science)	CSDT234A	Big Data Analytics	CO1	Recognize the characteristics, applications of big data that make it useful to real-world problems. .
			CO2	Process available data using big data tools hadoop file system and predict outcomes to solve given problem.
			CO3	Study & Design various case studies using big data tools/commands and

				analysis it
M.Sc. II (Computer Science)	CSDP234A	Big Data Analytics Practical	CO1	Recognize the characteristics, applications of big data that make it useful to real-world problems. .
			CO2	Process available data using big data tools hadoop file system and predict outcomes to solve given problem.
			CO3	Study & Design various case studies using big data tools/commands and analysis it
M.Sc. II (Computer Science)	CSDT234B	Web Analytics	CO1	Understand social media, web and social media analytics, and their potential impact.
			CO2	Determine how to Leverage social media for better services and Understand usability metrics, web and social media metrics.
			CO3	Use various data sources and collect data relating to the metrics and key performance indicators.
			CO4	Identify key performance indicators for a given goal, identify data relating to the metrics and key performance indicators.
M.Sc. II (Computer Science)	CSDP234B	Web Analytics Practical	CO1	Understand social media, web and social media analytics, and their potential impact.
			CO2	Determine how to Leverage social media for better services and Understand usability metrics, web and social media metrics.
			CO3	Use various data sources and collect data relating to the metrics and key performance indicators.
			CO4	Identify key performance indicators for a given goal; identify data relating to the metrics and key performance indicators.
M.Sc. II (Computer Science)	CSDT234C	Project	CO1	Students should work in a team of minimum 2 and maximum 3 students.
			CO2	Choose a project topic without any restriction on technology or domain to make them familiar with chosen technology.
			CO3	Group will work independently throughout the project work including: problem identification, information

				searching, literature study, design and analysis, implementation, testing, and the final reporting.
M.Sc. II (Computer Science)	CSDT234C	Project Related Assignments	CO1	Students should work in a team of minimum 2 and maximum 3 students.
			CO2	Choose a project topic without any restriction on technology or domain to make them familiar with chosen technology.
			CO3	Group will work independently throughout the project work including: problem identification, information searching, literature study, design and analysis, implementation, testing, and the final reporting.
M.Sc. II (Computer Science)	CSUP235	Practical on CSUT231, CSUT232 and CSUT233	CO1	Able to use specific frameworks as per applications need. .
			CO2	Process available data using python libraries and predict outcomes using Machine Learning algorithms to solve given problem.
			CO3	Able to estimate Machine Learning models efficiency using suitable metrics.
SEMESTER IV				
M.Sc. II (Computer Science)	CSUT241	Industrial Training /Institutional project	CO1	Each student must individually complete minimum 5 months full time Industrial training / Institutional project in the 4th semester.
			CO2	To bridge the gap between academic's and industry.
			CO3	To get the exposure of real time working environment.
			CO4	This is chance for students to work on their own choice project, something that interests and inspire to them to make them comfortable for industry point of view