Pratibha College of Commerce & Computer Studies
DEPARTMENT OF COMPUTER SCIENCE

MSc(CS) (2019 pattern)

Programme Outcomes :

After successfully completing M**. Sc. (Computer Science)** Programme students will be able to:

PO1: Use creativity, critical thinking, and analysis and research skills to solve theoretical and real-world problems in computer science
PO2: Work effectively both individually and as member of team to design and implement solution to computational problems.
PO3: Discuss various algorithms and analysis of algorithms with its complexity   PO4: Illustrate the concepts of networking and computation, and security.computation, and security. Communication, and distributed
PO5: Gain the knowledge about programming languages like PROLOG, LISP, Dot Net.
PO6: Communicate effectively for different purposes and in different situations. PO7: Gain self-discipline in everyday aspects of life and work.
PO8: Make use of Application fundamentals, including information management and intelligent applications.
PO9: Apply current technical concepts and practices in the core information Technologies
PO10: Apply the knowledge about software engineering fundamentals, including software analysis and design, evaluation and testing, and software engineering processes.

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Course Outcomes :

M. Sc. (Computer Science) (Part – I)

Course CSUT 111: Paradigms of Programming Languages
After successfully completing this course, students will be able to:

CO1:	Define the art of progamming language design,spectrum,compilation and Interpretation.
CO2:	Demonstrates Overview of Scope ,Bindings,and Subroutin Closures.
CO3:	Discuss various terminologies and concept of control flow structures in various languages .
CO4:	Describes Data Types of Different languages and their comparesion.
CO5:	Illustrate the concepts of Subprograms,Implementing Subprograms,Generic methods and Generic functios in C++ and Java
C06:	Describes OOPs Concepts.
CO7:	Discuss various Concurrency and its Category as wellas related terminologies .
CO8	Describes Various concepts of Functional Programming in Scala

Course CS-112: Design and Analysis of Algorithm
After successfully completing this course, students will be able to:

CO1:	Ability to analyze the performance of algorithms.
CO2:	Ability to choose appropriate algorithm design techniques for solving problems.
CO3:	Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs.
CO4:	To clear up troubles the usage of set of rules design methods including the grasping approach, divide and overcome, dynamic programming, backtracking and department and certain
CO5:	To understand the variations among tractable and intractable problems.
CO6:	To introduce p and np classes

Course CSUT 113 : Database Technologies
After successfully completing this course, students will be able to:

CO1:	Students will learn the concept of NOSQL Databases
CO2:	Students will learn the concept of NOSQL Databases by implementing MongoDB and Neo4j Practically
CO3:	To understand the portability of databases,how to change back end of an application swiftly
CO4:	Students will have and thorough understanding of what database to choose other than sql
CO5:	Through polyglot persistence They will understand how different database technologies can work together
C06:	Students will be able to select database according to their needs

Course CSDT 114B: Artificial Intelligence
After successfully completing this course, students will be able to:

CO1:	Describe problems, problem spaces & search for AI problems;
CO2:	Interpret heuristic search techniques;
CO3:	Express knowledge representation & reasoning using predicate logic;
CO4:	Explain knowledge representation using semantic network;
CO5:	Illustrate game playing & learning concepts.

Course CSDT 114C: Web services
After successfully completing this course, students will be able to:

CO1:	Discuss standards and bind architecture of Web services;
CO2:	Demonstrate web service by using Java Language;
CO3:	Explain SOAP (Simple object access protocol);
CO4:	Describe WSDL (Web Services Description Language);
CO5:	Discuss various service models used in cloud computing;
C06:	Illustrate case study based on cloud computing.

Course : Introduction to Cyber Security-I
After successfully completing this course, students will be able to:

CO1:	Learn Basics of networking
CO2:	Demonstate need of security and e-commerce security
CO3:	Understand vulnerabilitiues and threats to the system
CO4:	Learn cryptography and tools used in encryption

Course CSUT 121: Advanced Operating System
After successfully completing this course, students will be able to:

Co1	Recall the functions of Operating System;
Co2	Explain the system calls related to files and directory;
Co3	Describe the process environment and it's relationship;
Co4	Interpret the different memory management schemes;
Co5	Discuss the system calls related to signals;
CO6:	Explain the thread management in windows operating system

Course CSUT 122: Mobile Technologies
After successfully completing this course, students will be able to:

CO1:	Describe the introduction to mobile computing
CO2:	Demo.the overview of android fundamentals
CO3:	Discuss various terminologies and concepts of android UI design
CO4:	Demo.the overview of android thread notification
CO5:	Describe contain providers _SQLite programming,JSON parsing and accessing phone services
C06:	Illustrate the concepts of Phone Gap programming
CO7:	Descibes the iOS fundamentals

Course CSUT 123: Software Project Management
After successfully completing this course, students will be able to:

CO1:	Define the development phases of project life cycle;
CO2:	Describe the project integration management and their knowledge areas throughout the project life cycle;
CO3:	Use of metrics in software project;
CO4:	Explain Software Reliability characteristics, tools and methods used for Software Reliability;

Course CSDT 124C: Soft Computing
After successfully completing this course, students will be able to:

CO1:	Illustrate the concept of Fuzzy sets, knowledge representation using fuzzy rules, Fuzzy Inference System, Fuzzy Logic and various operations on it;
CO2:	Discuss the fuzzy system simulation and classification;
CO3:	solve the problems using fuzzy arithmetic;
CO4:	Describe Artificial Neural Network and applications of it;
CO5:	Explain Genetic Algorithms and differentiate Genetic algorithms from Traditional methods.

Course CSDT 124A : Project
After successfully completing this course, students will be able to:

CO1:	Describe the phases of Software development project life cycle;
CO2:	Apply the various project management tools and techniques;
CO3:	Implement software systems that meet specified design & performance, requirements;
CO4:	Use Team Management to effectively design & implement the project;
CO5:	Demonstrate effective project execution & Control techniques that results in successful project.

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Course Outcomes :

M. Sc. (Computer Science) (Part – II) SEM - III

CSUT231 Software Architecture and Design Pattern
After successfully completing this course, students will be able to:

CO1:	Familiarity with UML and OOPs Concepts
CO2:	To introduce students to the basic concepts and techniques of SADP
CO3:	Recognize the characteristics of patterns that make it useful to solve real-world problems.
CO4:	Use of patterns and architectures for solving practical problems.
CO5:	To understand about design pattern.
C06:	Able to use specific frameworks as per applications need
CO7:	To understand about the process of deploying web apps using specific Frameworks.
CO8:	Design java application using design pattern techniques

CSUT232 :Machine Learning
After successfully completing this course, students will be able to:

CO1:	To get introduced with basic terminology of machine learning
CO2:	To understand the deference types of Algorithm
CO3:	To solve the problem using regression model
CO4:	To solve the problem using classification model
CO5:	To solve the problem using clustering model
C06:	How to solve problem using Association rule.
CO7:	To understand the basic model of reinforcement learning
CO8:	To get introduce with basic concept of deep learning

CSUT233 Web framework
After successfully completing this course, students will be able to:

CO1:	To learn and illustrate the concept of client side programming using Java Script.
CO2:	To introduce and get installed modern web technology being used in industry
CO3:	To understand and implement modules while designing web application.
CO4:	To improve communication and getting started with installation of packages for developing web applications.
CO5:	To demonstrate how to create server and handle requests and responses using Node.js
CO6:	To implement in built functionality to be applied on file system using modules.
CO7:	To demonstrate the impact of asynchronous programming
CO8:	To introduce and communicate effectively the latest supportive databases and latest technologies used to manipulate the databases.
CO9:	To introduce new web framework integrated by Restful web services and to understand impact of it on professional IT services.
CO10:	Introduction of popular web framework and to apply modern web development tools.
CO11:	To design, build and deploy robust Django Web App.

CSDT234A Big Data Analytics
After successfully completing this course, students will be able to:

CO1:	Student must be Able to understand the building blocks of Big Data Student must be able to represent the analytical aspects of Big Data,learns scale out architeure ,its implication of data processing
CO2:	Student must be Able to understand the building blocks of Big Data Student must be able to represent the analytical aspects of Big Data,learns scale out architeure ,its implicationof data processing
CO3:	Student must be able to understand the specialized aspects of big data with the help of different big data applications, will be able to able to articulate the programming aspects of cloud computing(map Reduce etc)
CO4:	Student must be know the recent research trends related to Hadoop File System, MapReduce ,HDFS , general idea about Hive ,Mahout,Hbase commands
CO5:	Students will be able to leran how to extract values from big data using real time analysis,they will learn about in memory data grid ,map rduce & real time processing and various use cases .
C06:	Students will be able to learn to analyze ,evaluate various business cases ,develop business hypothesis ,analyae build ,select ,design various datasets by gathering and measurin big data

Course : Introduction to Cyber Security(Module-III)
After successfully completing this course, students will be able to:

CO1:	Students able to learn various definations and spectifications of Object Oriented Concepts.
CO2:	Students able to learn various Concept and advantages of unified modling language
CO3:	Students able to learn to design Basic structural modeling using classes and their relationships

Course: CS-234C: Industrial Training Project
After successfully completing this course, students will be able to:

CO1:	Select comprehensive learning platform students can enhance their employ ability skills and become job ready along with real corporate exposure;
CO2:	Apply the theory knowledge to get hands-on experience in the field of computer science;
CO3:	Appreciate the ethical basis of professional practice in relevant industry;
CO4:	Describe with all the latest changes in technological world;
CO5:	Interpret options in career plans and goals.