

M.Sc. (Computer Science) Part-I

(For Colleges Affiliated to Savitribai Phule Pune University) Choice Based Credit System Syllabus

Academic Year 2019-2020

Course Code: CSUT111 Course Name: Paradigm of Programming Language

Course Objectives:

To Prepare student to think about programming languages analytically:

- Separate syntax from semantics • Compare programming language designs
- Understand their strengths and weaknesses • Learn new languages more quickly
- Understand basic language implementation techniques
- Learn small programs in different programming Languages

Course Code: CSUT112 Course Name: Design and Analysis of Algorithm

Course Objectives:

- To design the algorithms • To select the appropriate algorithm by doing necessary analysis of algorithms
- To learn basic Algorithm Analysis techniques and understand the use of asymptotic notation
- Understand different design strategies
- Understand the use of data structures in improving algorithm performance
- Understand classical problem and solutions
- Learn a variety of useful algorithms
- Understand classification of problems
- To provide foundation in algorithm design and analysis
- To develop ability to understand and design algorithms in context of space and time complexity.

Course Code: CSUT113 Course Name: Database Technologies

Course Objectives:

- Provide an overview of the concept of NoSQL technology
- Provide an insight to the different types of NoSQL databases
- Make the student capable of making a choice of what database technologies to use, based on their application needs.

Course Code: CSDT114A Course Name: Cloud Computing

Course Objectives:

- To understand the principles and paradigm of Cloud Computing
- To appreciate the role of Virtualization Technologies
- Ability to design and deploy Cloud Infrastructure
- Understand cloud security issues and solutions

Course Code: CSDT114B Course Name: Artificial Intelligence

Course Objectives:

- To learn various types of algorithms useful in Artificial Intelligence (AI).
- To convey the ideas in AI research and programming language related to emerging technology.
- To understand the numerous applications and huge possibilities in the field of AI that goes beyond the normal human imagination.

Course Code: CSDT 114C Course Name: Web Services

Course Objectives:

- To understand the details of web services technologies like WSDL, UDDI, SOAP
- To learn how to implement and deploy web service client and server
- To explore interoperability between different frameworks
- To understand the concept of RESTful system.

Course Code: CSUT122 Course Name: Mobile Technologies

Course Objectives:

- To impart basic understanding of the wireless communication systems.
- To expose students to various aspects of mobile and ad-hoc networks.
- Understand the issues relating to Wireless applications Understand the Mobile security

Course Code: CSUT123 Course Name: Software Project Management T

Course Objectives:

- Software Metrics and Project Management covers skills that are required to ensure successful medium and large scale software projects.
- It examines Requirements Elicitation, Project Management, Verification & Validation and Management of Large Software Engineering Projects.
- 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.

Course Code: CSDT124B Course Name: Human Computer Interaction

Course Objectives:

- Design effective dialog for HCI.
- Design effective HCI for individuals and persons with disabilities.
- Assess the importance of user feedback.
- Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Web sites.
- Develop meaningful user interface.

Course Code: CSDT124C Course Name: Soft Computing

Course Objectives:

To introduce the ideas of soft computational techniques based on human experience.

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.

To apply the process of approximate reasoning using NeuroFuzzy Modeling.

To provide the mathematical background to carry out optimization using genetic algorithms.