M.Sc. (Computer Science) Part-I

MSC (Computer Science) SEM I

Course Name: Paradigm of Programming Language (CSUT111)

Course Objectives

• 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 Name: Design and Analysis of Algorithm(CSUT112)

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 Name: Database Technologies (CSUT113)

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 Name: Cloud Computing (CSUT114) ELECTIVE

Course Objectives:

• To understand the principles and paradigm ofCloud Computing

• To appreciate the role of Virtualization Technologies

• Ability to design and deploy Cloud Infrastructure

• Understand cloud security issues and solutions

Course Name: Artificial Intelligence (CSUT114) ELECTIVE

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 Name: Web Services Total Lectures
    - 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 Name: Web Services (CSUT114) ELECTIVE

Course Objective

- 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.

MSC (Computer Science) (SEM II)

Course Name: Advanced Operating System (CSUT121)

Course Objective

- This course teaches Advanced Operating Systems Concepts using Unix/Linux.
- This 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.
- This 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.
- This course provides an understanding of the functions of Operating Systems. It also provides provide an insight into functional modules of Operating Systems.
- It discusses the concepts underlying in the design and implementation of Operating Systems.

Course Name: Mobile Technologies(CSUT122)

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 Name: Software Project Management (CSUT123)

- 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 Name: Human Computer InteractionCSDT124

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.

M.Sc. (Computer Science) Part-II

(CORE) CS 301: Software Metrics & Project Management

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 and Validation

and Management of Large Software Engineering Projects.

• Student 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.

(CORE) CS 302: Mobile Computing

Course Objectives

• To familiarize the students with the buzz words and technology of mobile communication

• Understand the GSM architecture

• Understand the issues relating to Wireless applications

(CORE) CS 303: Soft Computing

Course Objectives

• To understand the concepts of how an intelligent system work and its brief development process.

(ELECTIVE) CS 305: Web Services

Course Objectives

• To Understand Web Services and implementation model for SOA

• To Understand the SOA, its Principles and Benefits

• Understanding cloud computing as a web service

• Discuss the concept of virtualization and data in cloud.

(ELECTIVE) CS 306: Database and System Administrator

Course Objectives

• This curriculum offers you the opportunity to acquire a combination of both Operating Systems & Database Administration skills.

• SDBA program gives you ideal opportunity to practice what you have learned through

real life case studies.

(ELECTIVE) CS 307: Functional Programming

Course Objectives

• Understand what functional programming is, what different variants are there and have

some grasp of their history;

• Explain the semantics of different functional languages using precise formal specifications;

• Know how to implement functional languages and what optimizations are important;

• Be able to state and critique what it means for an implementation of a functional programming language to be correct;

• Be able to (in principle) formally prove correctness of their implementations, including their compilers and garbage collectors

(ELECTIVE) CS 308: Business Intelligence

Course Objectives

• Understand the role of BI in enterprise performance management and decision support.

• Understand the applications of data mining and intelligent systems in managerial work.

• Understand data warehousing and online analytical processing (OLAP) concepts, including dimensional modeling, star and snowflake schemas, attribute hierarchies, metrics, and cubes.

• Learn data analysis and reporting using an available BI software.

(ELECTIVE) CS 402: Parallel Computing

Course Objectives

• Learning basic models of parallel machines and tools

• How to parallelize programs and how to use basic tools like MPI and POSIX threads.

(ELECTIVE) CS 403: Embedded System

Course Objectives

• Understand and design embedded systems and real-time systems

• For real-time systems:

Identify the unique characteristics of real-time systems

Explain the general structure of a real-time system

Define the unique design problems and challenges of real-time systems

• Apply real-time systems design techniques to various software programs.

• For embedded systems, it will enable you to Understand the basics of an embedded system Program an embedded system Design, implement and test an embedded system.

(ELECTIVE) CS 404: Software Quality Assurance

Course Objectives

• To enable student to learn Software Quality Assurance good practices with the help of various techniques, Strategies and tools