

<b>Subject Name</b>	<b>Description</b>
Automata Theory	Be able to construct finite state machines and the equivalent regular expressions and to prove the equivalence of languages described by finite state machines and regular expressions.
Analysis and Design of Algorithms	Analyze the running time and space complexity of algorithms. It Describes how to prove the correctness of an algorithm. Use the mathematical techniques required to prove the time complexity of a program/algorithm (e.g., limits and sums of series.) Apply algorithmic complexity principles in the design of programs. Design divide and conquer and dynamic programming algorithms.
Advance Database Management System	Describe DBMS architecture, physical and logical database designs, database modeling, relational, hierarchical and network models. Identify basic database storage structures and access techniques such as file organizations, Learn and apply Structured query language (SQL) for database definition and database manipulation.
Cryptography and Network Security	To provide deeper understanding into cryptography, its application to network security, threats/vulnerabilities to networks and countermeasures. To study various approaches to Encryption techniques, symmetric key encryption and asymmetric key encryption algorithms. Digital Signature Standard and provide solutions for their issues. To be familiar with E mail security, web security and IP security. To analyze the system security.
Software Engineering	To assist the students in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project. It help students to develop skills that will enable them to construct software of high quality, software that is reliable, and that is reasonably easy to understand, modify and maintain.
Unix and Linux Shell Programming	Introduce the student to Unix/Linux kernel programming techniques and teach advanced C systems programming and debugging techniques in a Unix/Linux environment. It provides the review basic concepts covered in the core Operating Systems course prerequisite as they are realized in the Linux platform.
Cloud Computing	To discuss the fundamental ideas behind Cloud Computing, the evolution of the paradigm, its applicability; benefits, as well as current and future challenges. To create awareness about the basic ideas and principles in data center design and management.To explain different CPU, memory and I/O virtualization techniques that serve in offering software, computation and storage services on the cloud. It discuss about the cloud storage technologies and relevant distributed file systems.
Compiler Design	To understand the theory and practice of compiler implementation and to learn finite state machines and lexical scanning .To learn context free grammars, compiler parsing techniques, construction of abstract syntax trees ,symbol tables, intermediate machine representations and actual code generation.

Microprocessors And Interfacing	To Understand the taxonomy of microprocessors and knowledge of contemporary microprocessors. Describe the architecture, bus structure and memory organization of 8085 as well as higher order microprocessors. Explore techniques for interfacing I/O devices to the microprocessor 8085 including several specific standard I/O devices such as 8251 and 8255.
Java Programming	Write, document, test and debug Java programs, making use of variables, expressions, selection and looping statements. Organize program code into modules using methods following the software engineering principles of modularity and abstraction. Assemble data and methods into classes at an introductory level following the software engineering principles of encapsulation and data hiding. To learn the basic syntax and semantics of the Java language and programming environment.
Web Technologies	To give the students the insights of the Internet programming and how to design and implement complete applications over the web. It covers the notions of Web servers and Web Application Servers, Design Methodologies with concentration on Object-Oriented concepts, Client-Side Programming, Server-Side Programming, Active Server Pages, Database Connectivity to web applications, Adding Dynamic content to web applications, Programming Common Gateway Interfaces, Programming the User Interface for the web applications.
Wireless and Mobile Communication	To introduce the concepts and techniques associated with Wireless Cellular communication systems. It familiarize with state of art standards used in wireless cellular systems. It provide idea about analog and digital modulation techniques used in wireless communication.
Software Project Management	It helps Conduct project planning activities that accurately forecast project costs, timelines, and quality. Understand processes for successful resource, communication, and risk and change management. Demonstrate effective organizational leadership and change skills for managing projects, project teams, and stakeholders. Understand and practice the process of project management and its application in delivering successful IT projects.
Modeling and Simulation	To provide an understanding of methods, techniques and tools for modeling, simulation and performance analysis of complex systems such as communication and computer networks. Discuss the fundamental elements of discrete-event simulation including statistical models, random processes, random variates, and inputs to simulation. Analyze a real world problem and apply modeling methodologies to develop a discrete-event simulation model. Interpret and contrast discrete-event techniques for implementing a solution to a simulation problem.
Object Oriented Software Engineering	To investigate principles of object-oriented software engineering, from analysis through testing. To learn techniques at each stage of development, including use cases, UML, Java and the JDK. To study and experiment with alternative models of the software development process from the classical waterfall model to Extreme programming.