

S.Y. B. Sc. IT (SEM III)

S.N.	Learning Objectives	Learning Outcomes
Python Programming		
1.	To explain a basic introduction to object-oriented and procedural programming using Python.	Students will be able to understand why Python is a useful scripting language for developers.
2.	To acquire knowledge and programming skills in python to solve problems in different domains	Students will learn how to design and program Python applications.
Data Structures		
1.	To enable students to understand the representation and use of primitive data types, built in data structures and allocation used in memory.	Students will be able to understand the representation and use of primitive data types, built in data structures and allocation used in memory
2.	To enable students to understand the concept of stack, queue, link list, tree, graph, memory allocation, garbage collection and applications of Data Structures.	Students will be able to understand the concept of stack, queue, link list, tree, graph, memory allocation, garbage collection and applications of Data Structures
Computer Networks		
1.	To help students acquire basic knowledge about data communications and computer networking.	Students will be able to acquire basic knowledge of the taxonomy and terminology related to computer networking and enumerates the layers of OSI model and TCP/IP model
2.	To assist student to learn about the different models and devices related to networks	Students will be able to acquire basic knowledge about routing and classification the routing protocols and analysis of assignment of the IP addresses for the given network.
Database Management Systems		

1.	To help students to learn database management system with an emphasis on how to organize, maintain and retrieve information from a DBMS.	Students will be able to able to differentiate Database management system and file processing system.
2.	To help students to learn about ER Diagram and their relationships.	Students will be able to make an ER Diagram using online software
3.	To help students learn the concepts of integrity and security.	Students will be able to able to understand the concepts of integrity, security and normalization approach.

Applied Mathematics

1.	Students will be taught the basic concepts of matrices and complex numbers.	Student will be able to understand basic concepts of matrices and complex numbers.
2.	Students will be taught to solve linear and higher order differential equations	Student will be able to solve linear and higher order differential equations.
3.	Students will be taught the concepts of Laplace and inverse Laplace transform and solve differential equations by using Laplace and inverse Laplace transform	Student will be able to understand concepts of Laplace and inverse Laplace transform and solve differential equations by using Laplace and inverse Laplace transform
4.	Students will be taught to solve multiple integral and find area and volume of regions by using multiple integration.	Student will be able to solve multiple integral and find area and volume of regions by using multiple integration

S.Y. B. Sc. IT (SEM IV)

Core Java

1.	To provide knowledge about basic Java language syntax and semantics to write Java programs.	Student will be able to understand how to design, implement, test, debug, and document programs using basic Java language syntax and semantics.
2.	To assist students to understand the fundamentals of object-oriented programming in Java to design GUI applications	Student will be able to implement object oriented programming concepts effectively.

3.	To teach how to design a graphical user interface (GUI) using applets and AWT in Java.	Student will be able to demonstrate how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved
Introduction to Embedded Systems		
1.	To acquire knowledge about the basic working of a microcontroller system and its programming using high level languages.	Student will be able to understand the difference between the general computing system and the embedded system and also recognize its classification
2.	To provide experiential learning to integrate hardware and software for microcontroller application systems	Student will learn to integrate hardware and software for microcontroller application systems
Computer Oriented Statistical Techniques		
1.	Students will be taught to apply t-test and Chi-Square test for independence and Goodness of fit.	Student will be able to analyze ungrouped and grouped data using measures of location and dispersion.
2.	Students will be taught to perform test of hypothesis as well as calculate	Student will be able to perform test of hypothesis as well as calculate
3.	confidence interval for a population parameter for single sample and double sample.	confidence interval for a population parameter for single sample and double sample.
4.	Students will be taught to analyze ungrouped and grouped data using measures of location and dispersion.	Student will be able to apply Student's t-test and Chi-Square test for independence and Goodness of fit.
5.	Students will be taught to compute and interpret results of bivariate and multivariate regression and correlation analysis for forecasting	Student will be able to compute and interpret results of bivariate and multivariate regression and correlation analysis for forecasting.
Software Engineering		
1.	Students will be provided with the knowledge of basic Software engineering methods and practices, and their appropriate application.	Student will be able to understand the different process models and project management concepts.
2.	Students will be taught software	Student will be able to develop skills for cost

	engineering layered technology and Process framework.	estimation for software development and understand the software risks
3.	Students will be given a general understanding of software process models such as the waterfall and evolutionary models	Student will be able to enhance teamwork ability in project scheduling and apply the concepts of software quality assurance.
4.	To make the students understand software requirements and the SRS documents.	Student will be able to make a SRS for a real time project.
Computer Graphics and Animation		
1.	To make students learn the use of components of graphics system.	Student will be able to able to learn basic concepts used in computer graphics.
2.	To make students learn to convert the basic geometrical primitives and transform the shapes to fit them as per the picture definition.	Student will be able to to implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping.
3.	To make students comprehend and analyze the fundamentals of animation	Student will be able to describe the importance of viewing and projections in 2D and 3D and also to define the fundamentals of animation, virtual reality and its related technologies.