Shastri III Year- V Semester

GENERIC COURSE 5 (GE-5)

Course Name: – SOFTWARE ENGINEERING

Introduction: Software Engineering is the backbone of software development. After studying the subject, the students will be able to develop and design the system according to the given requirements. It involves various steps in the analysis and design of the system.

Objective: Students must know the way to apply software engineering approaches in software development.

Learning Outcomes: After undergoing this subject, the students will be able to understand the problem and corresponding requirements for the development of software, and phases of the system development life cycle, and apply different testing techniques on the program.

Theory	: 60Marks
Internal Assessment	: 40 Marks

unit	Content	Hours	Credits
Unit - 1	**Introduction to Software Engineering:** Introduction to Software Engineering, Software Components, Software Characteristics, Software Crisis, Software Engineering Processes, Programs v/s Software Products.	15	01
Unit - 2	**Life Cycle Model:** Requirement of Life Cycle Model, Classic Waterfall Model, Prototyping Model, Evolutionary Model, Spiral Model, and Iterative Enhancement Models.	15	01
Unit - 3	**Requirement Analysis and Specification:** Requirement gathering and Analysis, Software Requirement Specifications (SRS), Characteristics of good SRS.	15	01
Unit - 4	**Software Design and Testing:** Characteristics and features of good Software Design Cohesion and Coupling. Concept of Testing, Testing type cycle (V-Model), Verification v/s Validations, Unit Testing, Black Box Testing, White Box Testing, Integration testing, and System testing.	15	`01

Reference Text Books:

1. Software Engineering by Rajib Mall, PHI Publishers, New Delhi
2. Software Engineering by KK Aggarwal and Yogesh Singh
3. Software Engineering – A Practitioner's Approach by RS Pressman, Tata McGraw Hill Publishers, New Delhi