

COURSE TITLE: SOFTWARE ENGINEERING

COURSE CODE: 23CS717

REGULATION: NR23

Course Objectives

1. The aim of the course is to provide an understanding of the working knowledge of the techniques for estimation, design, testing, and quality management of large software development projects.
2. Topics include process models, software requirements, software design, software testing, software process/product metrics, risk management, quality management, and UML diagrams.
3. To develop the ability to apply structured software engineering practices for analyzing, designing, and managing large-scale software systems effectively.
4. To enable students to understand and apply modern software development methodologies, tools, and standards for improving software productivity and maintainability.
5. To equip learners with skills in managing software project risks, quality assurance, and continuous improvement throughout the software development lifecycle.

Course Outcomes

1. Ability to translate end-user requirements into system and software requirements, using, e.g., UML, and structure the requirements in a Software Requirements Document (SRD).
2. Identify and apply appropriate software architectures and patterns to carry out high-level design of a system and be able to critically compare alternative choices.
3. Will have experience and/or awareness of testing problems and will be able to develop a simple testing report.
4. Ability to identify software risks, analyze their impact, and apply appropriate risk management and mitigation strategies in software projects.
5. Ability to apply software quality assurance practices, reviews, reliability measures, and quality standards such as ISO 9000 for ensuring software quality.

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Unit I – Introduction to Software Engineering

S.No	Questions	BT	CO
1	What is Software Development Life Cycle.	L1	CO1
2	Distinguish between software process and project.	L4	CO1
3	List the task regions in the spiral model	L1	CO1
4	What is Software and Software Engineering?	L1	CO1
5	Discuss about changing nature of software.	L1	CO1
6	Software Engineering a layered Technology.	L1	CO1
7	What are the advantages of Unified process.	L1	CO1
8	Explain various software myths.	L1	CO1
9	What are the merits of Incremental models?	L1	CO1
10	What are advantages of evolutionary process models?	L3	CO1
11	Explain CMMI model with a neat sketch	L1	CO1
12	Discuss in brief about the Waterfall model.	L1	CO1
13	What are the five generic process frame work activities? Explain.	L1	CO1
14	Give an overview of unified process model.	L1	CO1
15	State and explain various software myths.	L1	CO1
16	What are the merits of incremental model?	L1	CO1
17	Explain CMMI model with a neat sketch.	L1	CO1
18	Write the process assessment.	L2	CO1
19	What is legacy software? Explain briefly its impact in software engineering.	L3	CO1
20	Explain the following Spiral Model.	L1	CO1
21	Discuss about the changing nature of software.	L1	CO1
22	Software Engineering a layered Technology.	L1	CO1

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