

I Year II Semester	T	P
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SOFTWARE ENGINEERING

UNIT-I:

Introduction to Software Engineering:

The evolving role of software, Changing Nature of Software, Software myths. (Text Book 3)

The software problem: Cost, schedule and quality, Scale and change.

UNIT-II:

Software Process:

Process and project, component software process, Software development process models : Waterfall model, prototyping, iterative development, relational unified process, time boxing model, Extreme programming and agile process, using process models in a project. Project management process.

UNIT- III:

Software requirement analysis and specification: Value of good SRS, requirement process, requirement specification, functional specifications with use-cases, other approaches for analysis, validation.

Planning a software project: Effort estimation, project schedule and staffing, quality planning, risk management planning, project monitoring plan, detailed scheduling.

UNIT- IV:

Software Architecture: Role of software architecture, architecture views, components and connector view, architecture styles for C & C view, documenting architecture design, evaluating architectures.

Design: Design concepts, function-oriented design, object oriented design, detailed design, verification, metrics.

UNIT-V:

Coding and Unit testing: Programming principles and guidelines, incrementally developing code, managing evolving code, unit testing, code inspection, metrics.

Testing: Testing concepts, testing process, black-box testing, white-box testing, metrics.

TEXTBOOKS:

1. A Concise introduction to software engineering (undergraduate topics in computer science), Pankaj Jalote, Springer International Edition.
2. Software Engineering, A Precise approach, Pankaj Jalote, Wiley
3. Software Engineering, 3/e, & 7e Roger S. Pressman, TMH

REFERENCEBOOKS:

1. Software Engineering, 8/e, Sommerville, Pearson.
2. Software Engineering principles and practice, W S Jawadekar, TMH
3. Software Engineering concepts, R Fairley, TMH