Programme: B.Tech
Year & Semester: 3rd YEAR, V SEM
Branch: CSE
Subject name: SOFTWARE ENGINEERING
Subject Code: ETCS 303

S.No	Lecture No.	Topics to be covered
		UNIT-1
1.	Lecture 1	**Introduction:** Software Crisis, Software Processes
2.	Lecture 2	Software life cycle models: Waterfall, Prototype
3.	Lecture 3	Evolutionary and Spiral models
4.	Lecture 4	Overview of Quality Standards like ISO 9001, SEI-CMM
5.	Lecture 5	**Software Metrics:** Size Metrics like LOC, Token Count, Function Count
6.	Lecture 6	Design Metrics
7.	Lecture 7	Data Structure Metrics
8.	Lecture 8	Information Flow Metrics.
		UNIT-2.
9.	Lecture 9	**Software Project Planning:** Cost estimation
10.	Lecture 10	Static, Single and multivariate models
11.	Lecture 11	COCOMO model
12.	Lecture 12	Putnam Resource Allocation Model
13.	Lecture 13	Risk management

14.	Lecture 14	**Software Requirement Analysis and Specifications:** Problem Analysis, Data Flow Diagrams
15.	Lecture 15	Data Dictionaries, Entity-Relationship diagrams
16.	Lecture 16	Software Requirement and Specifications, Behavioural and non-behavioural requirements
17.	Lecture 17	Software Prototyping.
		UNIT-3.
18.	Lecture 18	**Software Design**: Cohesion & Coupling, Classification of Cohesiveness & Coupling
19.	Lecture 19	Function Oriented Design
20.	Lecture 20	Object Oriented Design
21.	Lecture 21	User Interface Design
22.	Lecture 22	**Software Reliability:** Failure and Faults, Reliability Models: Basic Model
23.	Lecture 23	Logarithmic Poisson Model
24.	Lecture 24	Calendar time Component, Reliability Allocation
		UNIT-4.
25.	Lecture 25	**Software Testing:** Software process, Functional testing: Boundary value analysis
26.	Lecture 26	Equivalence class testing, Decision table testing
27.	Lecture 27	Cause effect graphing
28.	Lecture 28	Structural testing: Path testing
29.	Lecture 29	Data flow testing
30.	Lecture 30	mutation testing

31.	Lecture 31	unit testing, integration and system testing, Debugging
32.	Lecture 32	Testing Tools & Standards.
33.	Lecture 33	**Software Maintenance:** Management of Maintenance, Maintenance Process
34.	Lecture 34	Maintenance Models
35.	Lecture 35	Reverse Engineering, Software Reengineering,
36.	Lecture 36	Configuration Management, Documentation.