Lecture Plan for Semester – V

Class: Vth Semester Subject Code: **ETCS-303**
Subject Name: Software Engineering

Total Lecture Classes Available: __44__ Credits: _4_

Total Tutorial Classes Available: __14__

S.No.	CONTENTS	NO. OF LECTURES	NO. OF TUTORIALS
	FIRST TERM		
1	**Introduction:** Software Crisis, Software Processes, Software life cycle models: Waterfall, Prototype, Evolutionary and Spiral models	3	1
2	Overview of Quality Standards like ISO 9001, SEI-CMM	2	
3	**Software Metrics:** Size Metrics like LOC, Token Count, Function Count, Design Metrics, Data Structure Metrics, Information Flow Metrics.	5	2
4	**Software Project Planning:** Cost estimation, static, Single and multivariate models	2	1
5	COCOMO model, Putnam Resource Allocation Model, Risk management.	3	1
6	**Software Requirement Analysis and Specifications:** Problem Analysis, Data Flow Diagrams, Data Dictionaries	3	2
7	Entity-Relationship diagrams, Software Requirement and Specifications, Behavioural and non-behavioural requirements, Software Prototyping	3	1

	SECOND TERM		
8	**Software Design:** Cohesion & Coupling, Classification of Cohesiveness & Coupling	3	1
9	Function Oriented Design, Object Oriented Design, User Interface Design.	3	1
10	**Software Reliability:** Failure and Faults, Reliability Models: Basic Model, Logarithmic Poisson Model, Calendar time Component, Reliability Allocation.	6	1
11	**Software Testing:** Software process, Functional testing: Boundary value analysis, Equivalence class testing, Decision table testing, Cause effect graphing	3	1
12	Structural testing: Path testing, Data flow and mutation testing, unit testing, integration and system testing, Debugging, Testing Tools & Standards.	3	1
13	**Software Maintenance:** Management of Maintenance, Maintenance Process, Maintenance Models, Reverse Engineering, Software Reengineering, Configuration Management, Documentation.	5	1

Text Books and Reference Books : As mentioned in syllabus