SREE VIDYANIKETHAN ENGINEERING COLLEGE
(Autonomous)
Sree Sainath Nagar, A. Rangampet-517 102

DEPARTMENT OF CSE

Lesson Plan cum Diary 2015-16

Name of the Subject	**ADVANCED SOFTWARE ENGINEERING – 14MT10503**	**Name of the Faculty**	**A.V.Sriharsha**
Class & Semester	**M.Tech I Semester**	**Section**	**---**

S. No.	Topic	No. of periods required	Date(s) covered	No. of periods used	Book(s) followed	Self Learning Concepts
Unit-I: INTRODUCTION TO SOFTWARE ENGINEERING AND PROCESS MODELS						
1.	Role of Software-Changing Nature of Software	1			T1	A study on SDLC, Application knowledge of Feasibility study.
2.	Legacy software, software myths	1			T1	
3.	Software Engineering- A Layered Technology	1			T1	
4.	The principles of software engineering practice	1			T1	
5.	Generic process (framework)	1			T1	
6.	Process patterns, Process assessment	1			T1,T2	
7.	Personal and Team process models	1			T1,T2	
8.	CMMI	1			T1,T2	
9.	Process models- The waterfall model, Incremental process models	1			T1	
10.	Evolutionary process models	1			T1	
11.	The Rational unified process	1			T1	
12.	Agile Process	1			T1	
Total of periods required:		12	Total of periods used:			
Unit-II: SOFTWARE REQUIREMENTS AND MODELING						
13.	Functional and nonfunctional requirements	1			T1	Requirements Analysis for development of a system. Modelling the Requirements for design.
14.	Requirements Specification	1			T1	
15.	Requirements Elicitation and Analysis	1			T1	
16.	Requirements Validation and Management 1	1			T1	
17.	Requirements Validation and Management 2	1			T1	
18.	Software requirements document (SRD)	1			T1	
19.	Requirements engineering process	1			T1,T2	
20.	Data modeling concepts	1			T1	
21.	Scenario based modeling	1			T1	
22.	Class based modeling	1			T1	
23.	Creating a behavioral modeling	1			T1	

	Total of periods required:	11		Total of periods used:		
Unit-III: DESIGN ENGINEERING						
24.	Design Quality Guidelines and attributes, Design Concepts	1			T1,T2	Understanding Design Artifacts
25.	Design Model	1			T1,T2	
26.	Architectural Design- Architectural Views	1			T1,T2	
27.	Architectural Styles and Patterns 1	1			T1	
28.	Architectural Styles and Patterns 2	1			T1	
29.	Pattern based design- Architectural patterns	1			T1	
30.	Component level design patterns	1			T1	
31.	User interface design patterns.	1			T1	
32.	Context Models	1			T1	
33.	Interaction Models	1			T1	
34.	Structural Models	1			T1	
35.	Behavioral Models	1			T1	
	Total of periods required:	12		Total of periods used:		
Unit-IV: SOFTWARE TESTING AND METRICS						
36.	Basic Concepts in Testing, System and Software Test and Integration	1			T1,T2	Exploring Tool Implementation
37.	Module level testing, Module Test Planning, Static Testing 1	1			T1,T2	
38.	Module level testing, Module Test Planning, Static Testing 2	1			T1,T2	
39.	White box and Black Box Testing 1	1			T1	
40.	White box and Black Box Testing 2	1			T1	
41.	Management and Metrics- The management Spectrum	1			T1	
42.	W5HH Principle.	1			T1	
43.	Size oriented metrics	1			T1	
44.	Function oriented metrics	1			T1	
45.	Product metrics- Metrics for the requirements model	1			T1	
46.	Metrics for the design model	1			T1	
47.	Metrics for source code	1			T1	
48.	Metrics for testing, Risk Management	1			T1	
	Total of periods required:	13		Total of periods used:		
Unit-V: SOFTWARE QUALITY AND MAINTENANCE						
49.	Software Quality, Software Standards, Reviews and Inspections 1	1			T1,T2	Quality Assurance Manual Design
50.	Software Quality, Software Standards, Reviews and Inspections 2	1			T1,T2	
51.	Software Reuse- Reuse landscape , Application Frameworks1	1			T1,T2	
52.	Software Reuse- Reuse landscape , Application Frameworks 2	1			T1,T2	
53.	Software Product lines, COTS Product Reuse 1	1			T1,T2	
54.	Software Product lines, COTS Product Reuse 2	1			T1,T2	
55.	Software Maintenance Process, Maintenance Resource Estimation 1	1			T1,T2	

56.	Software Maintenance Process, Maintenance Resource Estimation 2	1			T1,T2	
57.	Software Reengineering: A software reengineering process model 1	1			T1,T2	
58.	Software Reengineering: A software reengineering process model 2	1			T1,T2	
59.	Reverse engineering, Restructuring	1			T1,T2	
Total of periods required:		11	Total of periods used:			
Grand total of periods required:		**59**	**Grand total of periods used:**			

Text Books:

[T1] Roger S. Pressman, "Software Engineering-A Practioner's Approach," McGraw-Hill Higher Education, Sixth Edition, 2010.

[T2] Ian Sommerville, "Software Engineering," Addison-Wesley, Ninth Edition, 2010.

Reference Books:

[R1] Ali Behforooz and Frederick J Hudson, "Software Engineering Fundamentals," Oxford University Press, USA 1996.

[R2] Waman S Jawadekar, "Software Engineering principles and practice," TATA McGraw-Hill, First Edition, 2004.

[R3] K.K. Agarwal and Yogesh Singh, "Software Engineering," New Age International Publishers, Third Edition, 2008

Signature of the faculty Member **Signature of the HOD**