KIIT POLYTECHNIC, BHUBANESWAR

LESSON PLAN

Session :: Winter– 2022

Course Type :: Theory

Semester/Branch :: 5TH Semester, Comp.Sc Engineering

Subject (with code) :: Software Engineering(TH-3)

Contact hours/week :: 4 hours

Name of Faculty :: Mr Sunil Kumar Sahoo

Sl. No.	CLASS ID	COURSE CONTENT	MODE OF DELIVERY	EXHIBIT/ REFERENCE
1	1	**Unit-1: Introduction to software Engineering.** Program vs. Software product, Emergence of software engineering	Lecture (Explanation)	Fundamentals of Software Engineering By Rajib Mall
2	2	Computer Systems Engineering.	Lecture (Explanation)	Fundamentals of Software Engineering By Rajib Mall
3	3	Software life cycle models.	Lecture (Explanation)	Fundamentals of Software Engineering By Rajib Mall
4	4	Classical water fall model.	Lecture (Elaboration)	Study Material
5	5	Iterative water fall models	Lecture (Explanation)	Study Material
6	6	Prototyping model.	Lecture (Elaboration)	Study Material
7	7	Evolutionary model.	Lecture (Elaboration)	Study Material
8	8	Spiral model.	Lecture (Elaboration)	Study Material
9	9	**Discussion of Questions.**		Fundamentals of Software Engineering By Rajib Mall
10	10	**Unit-2:Introduction to Software Project Management**	Lecture (Explanation)	Software Engineering

		Responsibility of Project Manager, Project Planning.		Concepts and Practices By Ugrasen Suman
11	11	Project size estimation metrics: line of control (LOC) and	Lecture (Elaboration)	Software Engineering Concepts and Practices By Ugrasen Suman
12	12	Function point metric (FP).	Lecture (Explanation)	Study Material
13	13	Project estimation techniques	Lecture (Elaboration)	Study Material
14	14	Empirical estimation techniques	Lecture (Explanation)	Study Material
15	15	Heuristic techniques	Lecture (Elaboration)	Study Material
16	16	Analytical estimation techniques.	Lecture (Elaboration)	Study Material
17	17	COCOMO models: Basic.	Lecture (Explanation)	Study Material
18	18	COCOMO models: Intermediate and complete.	Lecture (Explanation)	Study Material
19	19	Scheduling.	Flipped class	Fundamentals of Software Engineering By Rajib Mall
20	20	Organization structure, Team structure.	Lecture (Explanation	Fundamentals of Software Engineering By Rajib Mall
21	21	Risk Management.	Lecture (Explanation)	Study Material
22	22	Configuration Management.	Lecture (Explanation)	Study Material
23	23	**Quiz Test**		
24	24	**Assignment Evaluation**		
25	25	**Unit-3:Introduction to requirement Analysis and Specification** Requirement gathering and analysis	Lecture (Explanation)	Nptel Reference https://www.youtube.com/watch?v=l9XFipXoJb0&list=PLbRMhDVUMngf8oZR3DpKMvYhZKga90JVt&index=15

26	26	Software Requirements Specification: Contents of SRS.	Lecture (Explanation)	Study Material
27	27	Characteristics and organization of SRS document.	Lecture (Explanation)	Study Material
28	28	Techniques for representing complexing logic	Lecture (Explanation)	Study Material
29	29	**Unit-4: Introduction to Understanding the principles and methods of S/W design.** Importance of S/W design, Design principles and concepts.	Flipped class	Nptel Reference https://www.youtube.com/watch?v=3253sqmQ6OA&list=PLbRMhDVUMngf8oZR3DpKMvYhZKga90JVt&index=28
30	30	Concept of Cohesion and coupling, Classification of cohesiveness.	Lecture (Explanation)	Fundamentals of Software Engineering By Rajib Mall
31	31	Classification of coupling, Neat arrangement	Lecture (Explanation)	Study Material
32	32	S/W design approaches, Structured analysis methodology, DFD diagrams, List the symbols used in DFD, Construction developing of DFD, Limitations of DFD.	Video Content	Nptel Reference Lecture 24: Basics of Data Flow Diagrams (DFD) - YouTube
33	33	Structured design, Principles of transformation of DFD to structure chart, Transform analysis and transaction analysis, Design Review.	Lecture (Explanation)	Software Engineering: A Prime By Jawadekar
34	34	**Quiz Test**		
35	35	Unit-5-Introduction to User interface design, Characteristics of Good Interface, Basic concepts of UID.	Lecture (Explanation)	Study Material
36	36	Types of User interfaces, Components based GUI development.	Lecture (Explanation)	Study Material

37	37	Quiz Test, Discussion of Previous Year Questions.	Lecture (Explanation)	Study Material
38	38	**Assignment Evaluation**		
39	39	**Unit-6: Introduction to S/W coding and Testing,** Coding standards and guidelines. Code Review: Code walk through, Code inspections and software documentation**.**	Lecture (Explanation)	Fundamentals of Software Engineering By Rajib Mall
40	40	Testing, different types of testing, Unit testing, Black box testing, Methods of black box testing: Equivalence class partitioning and boundary value analysis	Lecture (Elaboration)	Fundamentals of Software Engineering By Rajib Mall
41	41	White box testing, Methodologies for white box testing,	Lecture (Elaboration)	Study Material
42	42	Different white box methodologies: statement coverage, condition coverage, branch coverage.	Lecture (Explanation)	Study Material
43	43	White box methodologies: path coverage, cyclomatic complexity, data flow based testing and mutation testing	Lecture (Elaboration)	Study Material
44	44	Debugging approaches, Debugging guidelines, Integration Testing, Compare phased and incremental integration testing.	Lecture (Elaboration)	Study Material
45	45	System testing, alphas beta and acceptance testing	Lecture (Elaboration)	Study Material
		Performance testing and error seeding, General issues associated with testing.	Lecture (Explanation)	Study Material
46	46	**Unit-7: introduction to S/W Reliability.**	Lecture (Explanation)	Study Material

		S/W reliability, Importance of S/W reliability, Different reliability metrics.		
47	47	Reliability growth modeling, Software quality,	Lecture (Explanation)	Study Material
48	48	Software Quality Management System	Lecture (Explanation)	Study Material
49	49	**Assignment Evaluation and Revision Test**		