Lesson Plan

Name of Faculty : Varsha Rani, Assistant Professor
Discipline : Computer Science & Engineering
Semester : 4th
Subject : Principle of Software Engineering
Lesson Plan Duration: 15 weeks (from March, 2023 to June, 2023)
Work Load (Lecture/Practical) per week (in hours): Lectures 03 hours

Week	Theory		Topic covered Date and Remarks		
	Lecture Day	Topic (Including Assignment/Test)	Date	HOD	Director Principal
1st	1	Introduction to software and software engineering			
	2	The Process, Phases of software development			
	3	Software engineering paradigms, software characteristics			
	4	Role of software engineer and software project manager			
2nd	5	Software project management plan			
	6	Metrics for project size estimation			
	7	Software cost estimation, Project scheduling			
	8	Personnel planning, Organisational and Team structure			
3rd	9	Requirement engineering process			
	10	Software requirements			
	11	Guidelines for software requirements			
	12	Software requirement specification			
4th	13	Characteristics of SRS			
	14	Structure of SRS			
	15	Structure analysis			
	16	Tools of structure analysis-Data flow diagram, Decision table			
5th	17	Decision tree, data dictionary			
	18	Structured charts , object oriented analysis			
	19	Data modelling, Behavioural modelling			
	20	Software configuration management			
6th	21	Software risk			
	22	Risk management			
	23	Software design fundamentals			
	24	Design principles(structured design and object oriented design)			
7th	**1st Minor Test**				
8th	25	Design documentation			
	26	User interface design			
	27	Coding standard and guidelines			
	28	Code verification techniques			
9th	29	Code documentation			
	30	Computer aided software engineering(CASE) tools			
	31	Characteristics and Advantages of CASE tools			
	32	Testing fundamentals			
10th	33	Test Plan and Test Case design			
	34	Levels of software testing- Unit testing			
	35	Integration testing-Top down integration, Bottom up integration			
	36	Regression Testing, smoke testing			
11th	37	System testing- recovery testing, Security testing, Stress testing			
	38	Performance testing, acceptance testing			
	39	Alpha Testing, Beta testing			
	40	Testing techniques-White box testing			
12th	41	Black Box Testing			
	42	Software quality concepts			
	43	ISO9126, McCall's quality factors			
	44	SQA ,SQA activities			
13th	45	Software reviews- review process, Walkthroughs			
	46	Formal technical review(FTR)			
	47	Defect amplication model			
	48	ISO 9000 quality standards			
14th	**2nd Minor Test**				
15th	49	Capability maturity model(CMM)			
	50	Software reliability			
	51	Software maintenance			
	52	Software re-engineering			