

### 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 January, 2021 to May, 2021)

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
1 <sup>st</sup>	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			
2 <sup>nd</sup>	5	Software project management plan			
	6	Metrics for project size estimation			
	7	Software cost estimation, Project scheduling			
	8	Personnel planning, Organisational and Team structure			
3 <sup>rd</sup>	9	Requirement engineering process			
	10	Software requirements			
	11	Guidelines for software requirements			
	12	Software requirement specification			
4 <sup>th</sup>	13	Characteristics of SRS			
	14	Structure of SRS			
	15	Structure analysis			
	16	Tools of structure analysis-Data flow diagram, Decision table			
5 <sup>th</sup>	17	Decision tree, data dictionary			
	18	Structured charts , object oriented analysis			
	19	Data modelling, Behavioural modelling			
	20	Software configuration management			
6 <sup>th</sup>	21	Software risk			
	22	Risk management			
	23	Software design fundamentals			
	24	Design principles(structured design and object oriented design)			
7 <sup>th</sup>	<b>1<sup>st</sup> Minor Test</b>				
8 <sup>th</sup>	25	Design documentation			
	26	User interface design			
	27	Coding standard and guidelines			
	28	Code verification techniques			
9 <sup>th</sup>	29	Code documentation			
	30	Computer aided software engineering(CASE) tools			
	31	Characteristics and Advantages of CASE tools			
	32	Testing fundamentals			
10 <sup>th</sup>	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			
11 <sup>th</sup>	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			
12 <sup>th</sup>	41	Black Box Testing			
	42	Software quality concepts			
	43	ISO9126, McCall's quality factors			
	44	SQA ,SQA activities			
13 <sup>th</sup>	45	Software reviews- review process, Walkthroughs			
	46	Formal technical review(FTR)			
	47	Defect amplification model			
	48	ISO 9000 quality standards			
14 <sup>th</sup>	<b>2<sup>nd</sup> Minor Test</b>				
15 <sup>th</sup>	49	Capability maturity model(CMM)			
	50	Software reliability			
	51	Software maintenance			
	52	Software re-engineering			

