

# INFORMATION TECHNOLOGY DEPARTMENT

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the Faculty: MRS. BARSHARANI PATEL	Academic Year: 2025-26
Course No.: Th.3	Course Name: Software Engineering
Program: Diploma	Branch: IT
Sem : 3 <sup>rd</sup>	

Course Objective
<ul style="list-style-type: none"> <li>Knowledge of basis SW engineering methods and practices and their appropriate application</li> <li>Basic knowledge and understanding of the analyses and design of complex system.</li> <li>Ability to apply software engineering principals and technique.</li> <li>Ability to develop maintain and evaluate large scale software system.</li> <li>Ability to perform independent , research and analysis.</li> <li>To communicate and coordinate competently by listening , speaking , reading and writing English for technical and general purposes.</li> <li>Ability to work as an effective member or leader of software engineering team.</li> <li>To manage time proses and resources effectively by competing demand to achieve personal and teams goals identify and analyses the common threats in each domain.</li> </ul>

Sl. No.	Period /Class	Time (min)	Unit	Topic to be covered	Teaching method
1.	1.	60	1	<b>Introduction to Software Engineering.</b>	Chalk & talk + PPT
				Program vs Software product	
2.	2.	60	1	Emergencies of Software Engineering.	Chalk & talk + PPT
				Computer System Engineering.	
3.	3.	60	1	Software Life Cycle Models.	Chalk & talk + Real life example
				Classical Water fall model	
4.	4.	60	1	Iterative Water fall model	PPT + NPTEL
				Prototyping model	
5.	5.	60	1	Evolutionary model	Chalk & talk + NPTEL + Real life example
		60		Spiral model	

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6.	6.	60	1	<b>Revision Chapter - 1</b>	<b>Discussion &amp; Doubt Solving + Assignments</b>
7.	7.	60	2	<b>Software Project Management</b>	Chalk & talk + PPT
			2	Responsibilities of Project Manager	
8.	8.	60	2	Project Planning	Chalk & talk + NPTEL
9.	9.	60	2	Metrics for project size estimation (LOC & FP)	Chalk & talk
10.	10.	60	2	Project Estimation Techniques	PPT + NPTEL
11.	11.	60	2	COCOMO Models, Basic, Intermediate and complete	Chalk & talk + PPT
12.	12.	60	2	Scheduling	Chalk & talk + Real life example
			2	Organization and Team Structure	PPT + NPTEL
13.	13.	60	2	Staffing	Chalk & talk + PPT
14.	14.	60	2	Risk Management	Chalk & talk + Real life example
15.	15.	60	2	Configuration Management.	Chalk & talk + ppt
16.	16.	60	2	<b>Revision Chapter - 2</b>	<b>Discussion &amp; Doubt Solving + Questioners+ Assignments</b>
17.	17.	60	3	<b>Requirement Analysis and Specification</b>	Chalk & talk + Real life example + PPT
			3	Requirements gathering and analysis	
18.	18.	60	3	Software Requirements Specification. (SRS)	Chalk & talk + Real life example
19.	19.	60	3	Contents of SRS	Chalk & talk + PPT
20.	20.	60	3	Characteristics of Good SRS	Chalk & talk + Real life example + PPT
			3	Organization of SRS	
21.	21.	60	3	Techniques for representing complexion logic.	Chalk & talk
22.	22.	60	3	<b>Revision Chapter - 3</b>	<b>Discussion &amp; Doubt Solving+ Assignments</b>
23.	23	60	4	<b>Software Design</b>	Chalk & talk + Real life example + PPT
24.	24.	60	4	<b>What is a good S/W design.</b>	Chalk & talk

	24.	60	4	Cohesion and coupling.	Chalk & talk + PPT
25.	25.	60	4	Neat arrangement	Chalk & talk + Real life example
26.	26.	60	4	S/W Design approaches	Chalk & talk + PPT
27.	27.	60	4	Structured analysis	Chalk & talk + PPT + Real life example
28.	28.	60	4	Data Flow Diagrams	Chalk & talk + PPT
			4	Symbols used in DFD	
29	29.	60	4	Designing DFD	Chalk & talk + PPT + Real life example
			4	Developing DFD model of a system	
30.	30.	60	4	Short coming of DFD	Chalk & talk + NPTEL
			4	Structured Design	
31.	31	60	4	Principles of transformation of DFD to Structure Chart	Chalk & talk + PPT
			4	Transform analysis and Transaction Analysis	
32.	32.	60	4	Design Review	Chalk & talk
33.	33.	60	<b>4</b>	<b>Revision Chapter - 4</b>	<b>Discussion &amp; Doubt Solving+ Assignments</b>
34.	34.	60	<b>5</b>	<b>User Interface Design</b>	Chalk & talk
35.	35.	60	5	Characteristics of good interface	Chalk & talk + PPT
36.	36.	60	5	What is UID	Chalk & talk + NPTEL
37.	37.	60	5	Basic concepts of UID	Chalk & talk + PPT
38.	38.	60	5	What is user interfaces	Chalk & talk + Real life example
39.	39.	60	5	Types of user interfaces	Chalk & talk
40.	40.	60	5	Components based GUI development.	Chalk & talk + NPTEL
41.	41.	60	<b>5</b>	<b>Revision Chapter - 5</b>	<b>Discussion &amp; Doubt Solving + PPT+ Assignments</b>
42.	42.	60	<b>6</b>	<b>Software Coding And Testing</b>	Chalk & talk + NPTEL + Real life example
				Coding	
43.	43.	60	6	Code Review	Chalk & talk + NPTEL
				Code walk through	
44.	44.	60	6	Code inspections and software Documentation	Chalk & talk + NPTEL
45.	45.	60	6	Testing	Chalk & talk + Real life example
				Unit Testing	
46.	46.	60	6	Black Box Testing	Chalk & talk + NPTEL + Real life example
				Equivalence class partitioning and boundary value analysis	
47.	47.	60	6	White Box Testing	Chalk & talk + NPTEL
48.	48.	60	6	Different White Box methodologies statement coverage branch coverage, condition coverage, path coverage, cyclamates complexity data flow	Chalk & talk + PPT

49.	49.	60	6	Debugging approaches	Chalk & talk
50.	50.	60	6	Debugging guidelines	Chalk & talk
51.	51.	60	6	Integration Testing	Chalk & talk + PPT
52.	52.	60	6	Phased and incremental integration testing	Chalk & talk + PPT + NPTEL
				System testing alphas beta and acceptance testing	
53.	53.	60	6	Performance Testing, Error seeding	Chalk & talk + Real life example
54.	54.	60	6	General issues associated with testing.	<b>Discussion &amp; Doubt Solving + PPT + Questions+ Assignments</b>
				<b>Revision Chapter - 6</b>	
55.	55.	60	<b>7</b>	<b>Software Reliability</b>	Chalk & talk + Real life example
56.	56.	60	7	Different reliability metrics	Chalk & talk + PPT
57.	57.	60	7	Reliability growth modeling	Chalk & talk + PPT
58.	58.	60	7	Software testing , Software quality	Chalk & talk + Real life example
59.	59.	60	7	Software Quality Management System	Chalk & talk + NPTEL
60.	60.	60	7	Problem Solving and Revision	<b>Discussion &amp; Doubt Solving + PPT + Questions+ Assignments</b>

REFERENCE:

Sl.No	Name of Authors	Title of the Book	Name of the publisher
01	Rajib Mall	Fundamentals of Software Engineering PHI	PHI
02	02 Deepak Jain	Software Engineering: Principles and Practice	Oxford university press
03	Jawadekar	Engineering: A Primer	TMH

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