

PNS SCHOOL OF ENGG. & TECH., MARSHAGHAI

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING LESSON PLAN

BRANCH : CSE	SEMESTER : 5TH	NAME OF THE TEACHING FACULTY : Madhusmita Ram
SUBJECT : SOFTWARE ENGINEERING	NO. OF DAYS PER WEEK CLASS ALLOTTED : 04	SEMESTER FROM DATE: 07.07.2025 TO 15.11.2025
WEEK	CLASS DAY	THEORY TOPICS
1st	1st	1. INTRODUCTION TO SOFTWARE ENGINEERING Program vs Software, Emergence of Software Engineering
	2nd	Computer Systems Engineering , Software life cycle model
	3rd	Classical water fall model ,Iterative water fall model
	4th	Evolutionary model ,Prototyping model
2nd	1st	Spiral model ,Chapter review
	2nd	2. SOFTWARE PROJECT MANAGEMENT Responsibility of Project Manager
	3rd	Project Planning ,Metrics for Project size estimation(LOC and FP)
	4th	Project Estimation Techniques ,COCOMO Models, Basic, Intermediate and complete
3rd	1st	Scheduling ,Organization and Team structure
	2nd	Staffing ,Risk Management ,Configuration Management
	3rd	3. REQUIREMENT ANALYSIS AND SPECIFICATION Requirements gathering and analysis
	4th	Contents of SRS ,Characteristics of Good SRS
4th	1st	Organization of SRS ,Techniques for representing complex logic
	2nd	4. SOFTWARE DESIGN What is a Good S/W design, Cohesion
	3rd	Coupling, Neat arrangement
	4th	S/W Design approaches, Structured analysis
5th	1st	Data Flow Diagrams
	2nd	Symbols used in DFD
	3rd	Designing DFD
	4th	Developing DFD model of a system
6th	1st	Shortcomings of DFD
	2nd	Structured design
	3rd	Principles of transformation of DFD to Structure Chart
	4th	Transform analysis and Transaction Analysis
7th	1st	Design Review
	2nd	5. USER INTERFACE DESIGN for UID
	3rd	Interface design model

	4th	Interface design process and activities
8th	1st	Types of Interface
	2nd	Main aspects of Graphical UI
	3rd	Text based interface
	4th	Components GUI development
	1st	REVIEW
9th	2nd	6. SOFTWARE CODING AND TESTING Coding standards and Guidelines
	3rd	Coding ,Code Review
	4th	Code walk through
	1st	Code inspections and software Documentation
10th	2nd	Testing ,Unit testing ,Black Box Testing
	3rd	Equivalence class partitioning and boundary value analysis
	4th	White Box Testing
	1st	Different White Box methodologies statement coverage branch coverage
11th	2nd	condition coverage
	3rd	path coverage
	4th	cyclomatic complexity data flow based testing and mutation testing
	1st	Debugging approaches
12th	2nd	Debugging guidelines
	3rd	Integration Testing
	4th	Phased and incremental integration testing
	1st	System testing alphas beta and acceptance testing
13th	2nd	Performance Testing, Error seeding
	3rd	General issues associated with testing
	4th	7. SOFTWARE RELIABILITY of Reliability, H/w and S/w reliability
		Importance
14th	1st	Different reliability metrices
	2nd	Reliability growth modelling
	3rd	Software quality
	4th	Evolution of S/w quality management system
15th	1st	Importance, Requirement of ISO 9000 Certification
	2nd	Procedure to gain ISO9000 Certification
	3rd	SEI Capability Maturity Model (CMM)
	4th	Review and doubt clear

Bijayaranjani

SIGNATURE OF H.O.D

Madhusmita Ray

SIGNATURE OF LECTURER