PNS SCHOOL OF ENGG. & TECH., MARSHAGHAI

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING LESSON PLAN

BRANCH : CSE	**SEMESTER : 5TH**	**NAME OF THE TEACHING FACULTY : MR. BISWARANJAN SWAIN**
SUBJECT : SOFTWARE ENGINEERING	**NO. OF DAYS PER WEEK CLASS ALLOTTED : 05**	**SEMESTER FROM DATE: 01.08.2023 TO 30.11.2023**
WEEK	**CLASS DAY**	**THEORY TOPICS**
1ST	1st	**1. INTRODUCTION TO SOFTWARE ENGINEERING** Program vs Software, Emergence of Software Engineering
	2nd	Software life cycle model, Classical waterfall model
	3rd	Classical water fall model
	4th	Iterative water fall model
	5th	Prototyping model
2ND	1st	Evolutionary model
	2nd	Spiral model
	3rd	**2. SOFTWARE PROJECT MANAGEMENT** Responsibility of Project Manager
	4th	Project Planning
	5th	Metrics for Project size estimation(LOC and FP)
3RD	1st	Project Estimation Techniques
	2nd	COCOMO Models, Basic, Intermediate and complete
	3rd	Scheduling
	4th	Organization and Team structure
	5th	Staffing
4TH	1st	Risk Management
	2nd	Configuration Management
	3rd	**3. REQUIREMENT ANALYSIS AND SPECIFICATION** Requirements gathering and analysis
	4th	Contents of SRS
	5th	Characteristics of Good SRS
5TH	1st	Organization of SRS
	2nd	Techniques for representing complex logic
	3rd	**4. SOFTWARE DESIGN** What is a Good S/W design, Cohesion
	4th	Coupling, Neat arrangement
	5th	S/W Design approaches, Structured analysis , Review
6TH	1st	Data Flow Diagrams, Symbols used in DFD
	2nd	Designing DFD
	3rd	Developing DFD model of a system
	4th	Shortcomings of DFD, Structured design

	5th	Principles of transformation of DFD to Structure Chart
7TH	1st	Transform analysis and Transaction Analysis, Design Review
	2nd	Chapter review
	3rd	**5. USER INTERFACE DESIGN** Rules for UID
	4th	Interface design model, Interface design process and activities
	5th	Types of Interface
8TH	1st	Main aspects of Graphical UI, Text based interface
	2nd	Components GUI development
	3rd	Review
	4th	**6. SOFTWARE CODING AND TESTING** Coding standards and Guidelines
	5th	Code Review
9TH	1st	Testing, Unit testing
	2nd	Black-Box testing, Equivalence class partitioning and boundary value
	3rd	White-box testing, Statement coverage
	4th	Branch coverage, Condition coverage,
	5th	Cyclomatic complexity
10TH	1st	Debugging approaches, Debugging guidelines
	2nd	Integration testing
	3rd	System testing
	4th	Need for Stress testing and Error seeding
	5th	Issues associated with testing
11TH	1st	Review
	2nd	**7. SOFTWARE RELIABILITY** Importance of Reliability, H/w and S/w reliability
	3rd	Different reliability metrices
	4th	Reliability growth modelling
	5th	Software quality, Evolution of S/w quality management system
12TH	1st	Importance, Requirement of ISO 9000 Certification
	2nd	Procedure to gain ISO 9000 Certification
	3rd	Procedure to gain ISO9000 Certification
	4th	SEI Capability Maturity Model (CMM)
	5th	Review and doubt clear

Biswaranjan Swain

SIGNATURE OF H.O.D

Biswaranjan Swain

SIGNATURE OF LECTU