Software Engineering & Development Methodologies

Theory L/T (Hours per week): 4/0, Credit: 4

MODULE-I

Evaluation of Software Design Technique: Adhoc Base, Control Base, Data Structure, Data Flow, Objective Oriented. Process Model: SDLC, Component Base Software Developer Model, Unified Model, Fountain Model, 4P Approach: People, Process, Project, Product. Software Metrics: Process Metrics: LOC, COCOMO, PF, OO Process Metric, Use Case Process Metric.

MODULE-II

Product Metrics: FP, Architectural Design Metrics, Metrics for OO Design, Class Oriented Metric, Coupling Metric, Cohesion Metric. Metrics for Testing. Project Metrics: Web Engg.
Object Technology: Object, Classes, Message, Class Hierarchy, Inheritance, Abstract, Encapsulation, Polymorphisms. Relationship: IsA, Has A, UsesA. Object Oriented Modeling:

MODULE-III

Booch Notation, Rumbaugh Object Modeling Technique, Jacabson Model: Use Case, Abstract Use Case, Actor, Abstract actor. Use case Model: Domain Object Model, Analysis Object Model, Design Model, Testing Model, Implementation Model
UML Diagram: Class Diagram, Object Diagram, Sequence Diagram, Collaboration Diagram, Activity Diagram, State Chart Diagram, Component Diagram, Deployment Diagram

MODULE-IV

Object Oriented Analysis: Class: Interface Class, Control Class, Entity Class.Developing Use Case: Use case Element, Description, Case Study (i.e ATM), Class Classification Approach, Noun Phase Approach, Classical Approach, Function Point Approach, Structural Approach, CRC Card.
Object Oriented Design: Component Level Design, Cohesive, Coupling
Object Oriented Testing: System Testing: Requirement Specification, Integration Testing: Sequence Testing, Inheritance Testing, Polymorphism Testing, Encapsulation Testing
Unit Testing: Class Testing, Method Testing

Text Book:

Software Engineering by Pressman McGraw Hill