Object Oriented Software Engineering

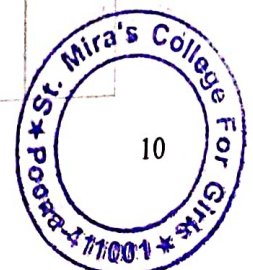| Semester V	Subject Code: BC51704	Lectures: 60

Objectives:

The syllabus aims in equipping students with,
- To Understand concept of system design using UML
- To understand system development through object oriented techniques

Unit 1: Object Oriented Concepts, Modeling and UML	16

Object Orientation: (class, object, inheritance, polymorphism)
Model : Introduction of Modeling, Object Oriented Modeling
- Object oriented system development
  - Function/data methods
  - Object oriented analysis
  - Object oriented construction
  - Object oriented testing
- Identifying the elements of an object model
  - Identifying classes and objects
  - Specifying the attributes
  - Defining operations
  - Finalizing the object definition
- Introduction to UML
  - Overview of UML
  - Conceptual Model of UML
  - Architecture
  - Advantages of UML

Unit 2: Basic and Advanced Structural Modeling	10

- Classes and Relationship
- Common mechanism
- Diagrams
- Class diagram
- Advanced classes
- Advanced Relationship
- Interface , Types and Roles
- Packages

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• Object Diagram	

Unit 3: Basic Behavioral and Architecture Modelling • Use cases, Use Case Diagram • Components Diagram • Deployment Diagram • Interaction Diagram • Sequence Diagram • Activity Diagram • State Chart Diagram • Collaboration Diagram (Case study on all diagrams)	12

Unit 4: Object Oriented Analysis
 	
• Iterative Development
• Understanding requirements
• Unified process & UP Phases
   ➢ Inception
   ➢ Elaboration
   ➢ Construction
   ➢ Transition
	04

Unit 5: Object Oriented Design
 	
• The Coad and Yourdon Method and Jacobson Method
• Generic components of OO Design model
• System Design process
   ➢ Partitioning the analysis model
   ➢ Concurrency and subsystem allocation
   ➢ Task Management component
   ➢ Data Management component
   ➢ Resource Management component
   ➢ Inter sub-system communication
• Object Design process
	06

*Contact hours – 12 hours

Recommended Text Book:
1. *Object Oriented software Engineering*, Dr Kavita Khobragade,Mrs Deepal Bhoskar, Nilesh Magar,Nirali Publication 2015

Reference Books:
1. Grady Booch, James Raumbaugh, Ivar Jacobson, *The Unified Modeling Language User Guide*
2. Ivar Jacobson, *Object Oriented Software Engineering*
3. Pressman, *Software Engineering*