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

• Object Diagram	

Unit 3: Basic Behavioral and Architecture Modelling	**12**
• 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)	

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

Unit 5: Object Oriented Design	**06**
• 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	

***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*