

## **MCA502 OBJECT ORIENTED ANALYSIS AND DESIGN WITH UML**

### **Module-I**

Introduction: Object orientation & Object oriented development, Modeling Concepts: Modeling as a design technique, Class Modeling, advanced class modeling, State Modeling, advanced State Modeling, Interaction Modeling, advanced Interaction Modeling. Collaboration Diagrams: Terms, Concepts, depicting a message, polymorphism in collaboration diagrams

### **Module-II**

Analysis and Design: Process overview, system Conception, Domain Analysis, System Design, Class design.

### **Module-III**

Implementation: Implementation Modeling, Object Oriented (OO) Languages, Databases, Programming Style.

### **Module-IV**

Management of Object-Oriented Software projects, Object oriented analysis, domain analysis and generic components of object- oriented analysis model, object behavior model. The intent of object-oriented metrics, the distinguishing characteristics and metrics for the object-oriented design model, class oriented metrics, operation oriented metrics, metrics for object oriented testing, metrics for object-oriented projects.

### **Text Books:**

1. Michael R. **Blaha** and James R **Rumbaugh**, "*Object-Oriented Modeling and Design with UML*", Second Edition, 2005, Pearson Education, Inc. New Delhi.  
Chapters: 1 to 8, 10, 11, 12, 14, 15, 17, 18, 19, 20.
2. Mark **Priestley**, "*Practical Object-Oriented Design with UML*", Second Edition, 2006, McGraw-Hill Education, India. New Delhi.

### **Reference Books:**

1. Grady **Booch**, "*Object-Oriented Analysis and Design with Applications*", Third Edition, 2007, Pearson Education, Inc. New Delhi.
2. Craig **Larman**, "*Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development*", Third Edition, 2005, Pearson Education, Inc. New Delhi.
3. Mike **O'Docherty**, "*Object Oriented Analysis and Design: Understanding System Development with UML 2.0*", 2005, Wiley India Pvt. Ltd., New Delhi.
4. John W. **Satzinger**, Robert B. **Jackson**, Stephen D. **Burd**, "*Object-Oriented Analysis and Design with the Unified Process*", 2006, CENGAGE Learning India Pvt. Ltd., New Delhi.
5. James **Rumbaugh**, Grady Booch, Ivar Jacobson, "*The Unified Modeling Language*