

## **Object Oriented Analysis and Design Using UML**

**Total Marks: 100**

**External Marks: 70**

**Internal Marks: 30**

**Credits: 4**

**Pass Percentage: 40%**

### **Section A**

Unit I: Introduction to Object: Object Orientation, Development, Modeling, Object Modeling technique. Object modeling: Objects and classes, Links and Association, Generalization and inheritance

Unit II: Grouping constructs, Aggregation, Abstract Classes, Generalization as extension and restriction, Multiple inheritance

Unit III: Design Methodology, Analysis: Object modeling, Dynamic modeling, Functional modeling, Adding operations, Iterating Analysis.

Unit IV: Comparison of methodologies: Structured Analysis/ Structured Design, Jackson Structured Development.

### **Section B**

Unit V: Implementation: Using Programming Language, Database System, outside Computer. Programming Style: Object Oriented Style, Reusability, Extensibility, Robustness, Programming in-the-large.

Unit VI: UML: Basics, Emergence of UML, Types of Diagrams. Use Case: Actors, Use Case Diagram, Relationships between Use Cases

Unit VII: Classes: Class Diagram, Classes, Objects, Attributes, Operations, Methods, Interfaces, Constraints, Generalization, Specialization, Association, Aggregation.

Unit VIII: Behavioral Diagrams: Activity Diagram, Collaboration Diagram, Sequence Diagram, State chart Diagram

### **Suggested Reading:**

1. Ugrasen Suman, Object – oriented Analysis and Design Using UML, C engage publications
2. Michael Blaha, Object – Oriented Modeling and Design with UML IPearson
3. Sarnath Ramnath, Object – Oriented Analysis and Design, Springer