SEMESTER- V

COURSE CODE :- DSE 1
COURSE TITLE :- DSE-I/OBJECT ORIENTED MODELING AND DESIGN
CREDIT :- 4

Marks distribution
Full Marks: 20 (MSE) + 80 (ESE) = 100 Times: 3 hrs Pass Marks: 45
This paper consists of 70 marks and divided into two groups:
Group-A: Objective questions (Compulsory) : 1 x 10 = 10
Group-B: Descriptive questions (6 out of 9 questions) : 7 x 10 = 70
Total = 80
The questions must cover the entire syllabus with equal distribution of marks as far as practicable.

Module 1: **Introduction:** What Is Object-Oriented? What Is Object Oriented Development? Object Oriented Theme.

Module 2: **Modeling as a Design Technique:** Modeling, Abstraction, The three models.

Module 3: **Class Modeling:** Object and class concepts, link and association concepts, Generalization and inheritance, a sample class model. **Advanced class Modeling:** Aggregation, abstract classes, multiple inheritances, metadata, and constraints.

Module 4: **State Modeling:** Events, states, state diagrams. **Advanced states Modeling:** Nested state diagrams, nested states, concurrency, a sample state model.

Module 5: **Interaction Modeling**: Use case models, sequence models, activity models, Data Flow Diagrams

Module 6: **Process Overview:** Development states, Development life cycle.

Module 7: **System Design:** Overview of system design, breaking a system into subsystems, indentify concurrency, allocation of subsystems, management of data storage, handling global resources, choosing a software control strategy, handling boundary conditions, setting trade-off priorities, common Architectural styles, architecture of the ATM system.

Module 8: **Programming style:** Object-Oriented Style, Reusability, Extensibility, Robustness, Programming – in-the-Large.

Text Book:
Michael R Blaha and James R Rumbaugh– Object Oriented Modeling and Design, PHI, New Delhi, 2003

PRACTICAL: UML

Object Oriented with UML, Class diagram, Object Diagram, Activity Diagram, State Diagram