



USN

--	--	--	--	--	--	--	--

**18CS642**

## Sixth Semester B.E. Degree Examination, July/August 2022 Object Oriented Modeling and Design

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Explain the following terms with example,  
(i) Aggregation versus association (ii) Aggregation versus composition. (10 Marks)
- b. Define Association End. List and explain the properties of Association End. (10 Marks)

**OR**

- 2 a. Explain the following terms with example: (i) Metadata (ii) Reification. (10 Marks)
- b. Define Event. Explain different kinds of events with an example. (10 Marks)

### Module-2

- 3 a. List and explain the rules for developing statecharts. (10 Marks)
- b. Define SSD. What are the steps to develop SSD based on activity diagram? (10 Marks)

**OR**

- 4 a. Define Use Case diagram. Explain notations used in usecase diagram with example. (10 Marks)
- b. Explain the process of developing the ORDERITEM statechart with the help of state diagram. (10 Marks)

### Module-3

- 5 a. List and explain the stages of software development process. (10 Marks)
- b. Explain the system concept for an automated Teller machine with the help of problem statement. (10 Marks)

**OR**

- 6 a. List and explain the criteria's to eliminate unnecessary and incorrect attributes. (10 Marks)
- b. List and explain the steps to construct a domain state model. (10 Marks)

### Module-4

- 7 a. Explain primary responsibility of view layer and data access layer classes. (10 Marks)
- b. Explain Encapsulation Information hiding, Cohesion and Separation of responsibilities. (10 Marks)

**OR**

- 8 a. Explain the steps to be followed in developing first cut sequence diagram. (10 Marks)
- b. Explain the process of designing with communication diagrams. (10 Marks)

### Module-5

- 9 a. Explain the applicability, structure, benefits and liabilities of abstract factory pattern. (10 Marks)
- b. Explain the process of how design pattern. Solve design problem. (10 Marks)

**OR**

- 10 Write a short notes on:
  - a. Structural pattern.
  - b. Creational pattern.
  - c. Adopter design pattern.
  - d. Proxy pattern. (20 Marks)

\* \* \* \* \*

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.