

# CBCS SCHEME

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17CS551

## Fifth Semester B.E. Degree Examination, Jan./Feb. 2023 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. What is object orientation? Explain the stages involved in object oriented methodology. (08 Marks)
- b. Explain object oriented themes. (06 Marks)
- c. Explain three kinds of models used in OOMD to describe a system. (06 Marks)

OR

- 2 a. Define the following terms with example and UML notations:
  - (i) Links and associations
  - (ii) Multiplicity
  - (iii) Qualified association
  - (iv) Association classes
  - (v) Visibility(10 Marks)
- b. What is Aggregation and Composition? Explain with UML notation with an example. (10 Marks)

### Module-2

- 3 a. What is use case diagram? Explain its notation with an example. (10 Marks)
- b. Mention the notations and alternate notations to show the repeating operation in SSD's with example. (10 Marks)

OR

- 4 a. What is state chart diagram? Explain the steps involved in developing state chart diagram. (10 Marks)
- b. Explain all the necessary steps for developing order item state chart. (10 Marks)

### Module-3

- 5 a. Explain the software development process. (10 Marks)
- b. Explain waterfall development and iterative development life cycles. (10 Marks)

OR

- 6 a. Explain the criterias used to select the right classes in domain class model. (10 Marks)
- b. Explain an overview of domain analysis. (10 Marks)

### Module-4

- 7 a. Explain the overview of object oriented programs with neat diagram. (10 Marks)
- b. Explain fundamental important design principles to object oriented design. (10 Marks)

OR

- 8 a. Explain the design process with communication diagrams. (10 Marks)  
b. Discuss the implementation issues of view layer classes, domain layer classes and data access layer classes. (10 Marks)

Module-5

- 9 a. What is design pattern? Explain four important elements of design pattern. (10 Marks)  
b. Explain how to select and how to use a design pattern. (10 Marks)

OR

- 10 a. Mention any five design problems and explain how design patterns solve them. (10 Marks)  
b. Write short notes on: (i) Creational pattern (ii) Structural pattern (10 Marks)

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