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## Fifth Semester B.E. Degree Examination, Aug./Sept. 2020 Object Oriented Modeling and Design

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Elaborate the major themes that are well supported in object oriented technology. (06 Marks)  
b. What is a Model? Explain how systems models are classified. (06 Marks)  
c. Explain qualified association with an example. (04 Marks)

OR

- 2 a. What is generalization? Explain with an example. (06 Marks)  
b. Explain aggregation and composition with suitable examples. (06 Marks)  
c. Briefly explain the constraints on generalization sets. (04 Marks)

### Module-2

- 3 a. What are use cases and actors? Explain the use case diagram of an order entry subsystem. (06 Marks)  
b. Explain the generic and repeating message notations of a system sequence diagram with suitable examples. (10 Marks)

OR

- 4 a. Explain the steps to develop a system sequence diagram based on an activity diagram. (08 Marks)  
b. Explain nested states and concurrent states with examples. (08 Marks)

### Module-3

- 5 a. Explain the various stages in software development process. (08 Marks)  
b. What is system conception? Explain the ways to devise and elaborate a system concept. (08 Marks)

OR

- 6 a. Identify the classes for ATM system. What are the criteria to select right classes? Explain. (08 Marks)  
b. Explain the steps performed in constructing a domain state model with an example. (08 Marks)

### Module-4

- 7 a. Briefly explain the steps in object oriented design process. (04 Marks)  
b. Discuss the fundamental object oriented design principles. (06 Marks)  
c. What is a use case controller? Explain with an example. (06 Marks)

OR

- 8 a. What are the symbols used in communication diagrams? Explain the communication diagram for look up item availability. (08 Marks)  
b. Describe the steps in constructing first – cut sequence diagram with an example. (08 Marks)

### Module-5

- 9 a. What is a design pattern? Explain the format for describing design pattern. (08 Marks)  
b. Explain how design patterns solve the various design problems. (08 Marks)

OR

- 10 a. Explain the consequences of prototype pattern. (05 Marks)  
b. Explain the implementation issues of singleton pattern. (06 Marks)  
c. Explain the applicability and structure of proxy pattern. (05 Marks)

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