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## Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019 Object Oriented Modeling and Design

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. What is object orientation? Explain OO Themes. (08 Marks)  
b. Define the following terms with examples:  
(i) Object (ii) Class (iii) Multiplicity (iv) Link and Association (08 Marks)

**OR**

- 2 a. Explain the three models used in object oriented modeling and design. (08 Marks)  
b. Briefly explain Aggregation and Composition. (08 Marks)

### Module-2

- 3 a. What are use case diagrams? Explain Use Case diagrams with an example. (08 Marks)  
b. What are sequence diagrams? Explain sequence diagrams with an example. (08 Marks)

**OR**

- 4 a. Define state diagram. Explain state diagram for order item and mention states and exit transitions for order. (08 Marks)  
b. Briefly explain the steps involved in developing state chart diagram. (08 Marks)

### Module-3

- 5 a. Explain software development stages. (08 Marks)  
b. Explain waterfall development and iterative development life cycles. (08 Marks)

**OR**

- 6 a. Explain an overview of Domain Analysis. (08 Marks)  
b. Explain the steps involved in constructing a domain class model. (08 Marks)

### Module-4

- 7 a. Explain design classes and design class diagrams. (08 Marks)  
b. Briefly explain object responsibility and class responsibility collaboration cards. (08 Marks)

**OR**

- 8 a. Explain designing with communication diagrams. (08 Marks)  
b. List and explain the primary responsibility of view layer classes, domain layer classes and data access layer classes. (08 Marks)

### Module-5

- 9 a. What is design pattern? Explain four essential elements of design pattern. (08 Marks)  
b. Explain selecting a design pattern and how to use a design pattern. (08 Marks)

**OR**

- 10 a. Briefly explain the general template for describing design pattern. (08 Marks)  
b. Write short note on:  
(i) Creational pattern.  
(ii) Structural pattern. (08 Marks)

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