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## Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020 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. Define the following terms with example and UML notating.  
i) Multiplicity ii) Qualified Association  
iii) Association classes iv) Links and Associations. (08 Marks)
- c. Explain the three kinds of models used in OOMD to describe a system. (04 Marks)

OR

- 2 a. What is aggregation and composition? Give their respective UML notation with an example. (10 Marks)
- b. What is multiple inheritances? Explain the kinds of multiple inheritances. (10 Marks)

### Module-2

- 3 a. What is usecase diagram? Explain notation used in usecase diagram with example. (10 Marks)
- b. Explain the detailed notation and Alternate notation to show the Repeating operation in SSD's with example. (10 Marks)

OR

- 4 a. What is Statechart Diagram. Explain the steps involved in developing statechart diagram. (10 Marks)
- b. Explain state diagram for class "OrderItem" with steps. (10 Marks)

### Module-3

- 5 a. Explain the different stages of Software Development process. (10 Marks)
- b. Explain waterfall development and iterative development life cycles. (10 Marks)

OR

- 6 a. Explain the system concept for Automated Teller Machine. (06 Marks)
- b. Explain the criterias used to select the right classes in Domain class model. (08 Marks)
- c. Explain the steps performed to construct domain state model. (06 Marks)

### Module-4

- 7 a. What is Stereotype? Explain the Standard stereotypes found in design models with figure. (10 Marks)
- b. Explain fundamental important design principles to object oriented design. (10 Marks)

OR

- 8 a. Explain the process of Design with communication Diagrams. (10 Marks)
- b. List and explain primary Responsibility of view layer classes, domain layer classes and Data Access layer classes. (10 Marks)

### Module-5

- 9 a. What is Design Pattern? Explain how to describe design pattern. (10 Marks)
- b. Explain how to select and how to use a Design pattern. (10 Marks)

OR

- 10 a. Explain the applicability, benefits and liabilities of abstract factory pattern. (10 Marks)
- b. Write a short notes on : i) Creational pattern ii) Structural pattern. (10 Marks)

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