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10CS71

Seventh Semester B.E. Degree Examination, June/July 2019

## Object Oriented Modeling and Design

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

### PART - A

- 1 a. What is object oriented development? List and explain object oriented themes. (10 Marks)  
b. Define the following terms with examples:
  - i) Links and associations
  - ii) Multiplicity
  - iii) Association end names
  - iv) Ordering
  - v) Bag and sequence (10 Marks)
- 2 a. What is an aggregation? Explain aggregation versus associations and aggregation versus composition. (10 Marks)  
b. Explain the following terms with an examples:
  - i) Meta data
  - ii) Derived data
  - iii) Reification (06 Marks)  
c. Draw the state diagram for a telephone line. (04 Marks)
- 3 a. What do you mean by concurrency? Explain aggregation concurrency with a neat diagram. (08 Marks)  
b. What is an interaction model? Explain with a neat diagram sequence diagram for a online stock broker. (06 Marks)  
c. Explain the following terms with examples:
  - i) Include relationship
  - ii) Extend relationship
  - iii) Generalization (06 Marks)
- 4 a. List and explain the stages involved in software development. (10 Marks)  
b. List the steps to construct a domain class model and explain them briefly. (10 Marks)

### PART - B

- 5 a. Explain the steps followed in constructing application interaction model. (10 Marks)  
b. With a neat diagram explain the architecture of ATM system. (07 Marks)  
c. Name the three kinds of controls for the external event in a software system. (03 Marks)
- 6 a. What is refactoring? Explain the tasks involved in design optimization. (10 Marks)  
b. What are the steps involved in improving the organization of a class design? Explain them briefly. (10 Marks)
- 7 a. What is a pattern? Lists the properties of pattern. (10 Marks)  
b. With a neat diagram, explain the publisher-subscriber design pattern with necessary implementation steps. (10 Marks)
- 8 a. Explain the structure and implementation steps of view handler pattern with a neat diagram. (10 Marks)  
b. With a neat diagram explain the counted pointer idiom. (10 Marks)

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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.

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