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Fifth Semester MCA Degree Examination, Dec.2018/Jan.2019

Object Oriented Modeling and Design Patterns

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. What is object orientation? List and explain the different themes that pervade the OO technology and explain the purpose of modeling. (12 Marks)
- b. Describe Multiplicity, Association End Names, Ordering, Bags and Sequences with examples. (08 Marks)
- 2 a. Differentiate between:
 - i) Concrete classes and abstract classes
 - ii) Aggregation and composition (10 Marks)
- b. What is an event? Briefly explain the three different types of events with example. (10 Marks)
- 3 a. Define a state diagram and draw a Nested State diagram for telephone line. (08 Marks)
- b. Define Sequence models. Draw the sequence diagram for Online Stack Broker System. Also list the guidelines for sequence diagram. (12 Marks)
- 4 a. Discuss about activity models with guidelines and draw activity diagram for Stock Trade Processing. (10 Marks)
- b. What is use case diagram? List and explain the guidelines of Use Case models. Draw a use case diagram for Vending Machine. (10 Marks)
- 5 a. Define Use Case Relationships. With examples discuss three different types of Use Case relationships and list their guidelines. (10 Marks)
- b. List and explain the sequence of well defined stages of software development. (10 Marks)
- 6 a. List all the steps needed to construct a Domain class model. Explain any four steps with neat diagram. (10 Marks)
- b. What is Application State Model? Explain the steps to construct the Application Class Models. (10 Marks)
- 7 a. Discuss briefly on Designing Algorithm, Recursive downward and refraction in class design. (12 Marks)
- b. Define patterns. Explain with neat diagram MVC pattern. (08 Marks)
- 8 a. Discuss the dynamics and steps of implementation of Forwarder-Receiver pattern with all necessary diagrams. (10 Marks)
- b. With all necessary diagrams, briefly explain Client-Dispatcher-Server design pattern. (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.