Fifth Semester MCA Degree Examination, Dec.2017/Jan.2018
Object Oriented Modeling & Design Patterns

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1   a. What is object orientation? Explain briefly the stages involved in object oriented methodology. **(10 Marks)**
    b. What do you mean by abstraction? Discuss different types of modeling techniques used for object oriented modeling and design. **(10 Marks)**

2   a. Discuss the terms aggregation and composition with example. **(08 Marks)**
    b. Explain with a diagram, how an association class participates **(06 Marks)**
    c. What are links and association? Write and explain UML notations for links and associations with an example. **(06 Marks)**

3   a. Define state diagram and state model. Draw the state diagram for telephone line with activities. **(10 Marks)**
    b. What do you mean by states and events? Discuss different kinds of events. **(10 Marks)**

4   a. What is a use case? Explain the guidelines for use case models. **(08 Marks)**
    b. What do you mean by swim lane? Explain briefly an activity diagram with swim lanes for servicing an airplane. **(06 Marks)**
    c. Discuss sequence models. Draw the sequence diagram for a session with an online stock broker. **(06 Marks)**

5   a. List and explain different stages of software development process. **(10 Marks)**
    b. Discuss about activity models with guidelines and draw the activity diagram for stock trade processing. **(10 Marks)**

6   a. Discuss the steps to construct a domain class model, with an example of ATM. **(10 Marks)**
    b. Discuss the steps to construct an application interaction model with example. **(10 Marks)**

7   a. Discuss common architectural styles of system design. **(10 Marks)**
    b. Discuss with example:
       (i) Enumerations   (ii) Abstract class **(10 Marks)**

8   a. What is a pattern? How it is categorized? Describe any one category with an example. **(10 Marks)**
    b. Explain client-dispatcher-server design pattern. **(10 Marks)**

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