10CS71

Seventh Semester B.E. Degree Examination, Dec.2017/Jan.2018
Object Oriented Modeling and Design

Time: 3 hrs.   Max. Marks:100

**Note: *Answer any FIVE full questions, selecting
atleast TWO questions from each part.***

PART – A

1   a.   What is object orientation? Explain its aspects with an example. Explain the concept of OO themes. **(10 Marks)**
    b.   Explain the following with examples :
    i)   Links and associations   ii) Multiplicity   iii) Association class
    ii) Qualified association   v) Bags and sequences. **(10 Marks)**

2   a.   Explain :
    i) Aggregation Vs Association   ii) Aggregation Vs composition. **(05 Marks)**
    b.   Prepare a metadata of a CAR model that supports only the following UML concepts : Class, attribute, association, association end, multiplicity, class name and attribute name. Use only these constructs to build the metadata. **(05 Marks)**
    c.   What is an event? Explain different types of events with an example. **(10 Marks)**

3   a.   With an example explain the aggregation concurrency. **(08 Marks)**
    b.   Explain scenarios and sequence diagram of an online stock broker. **(08 Marks)**
    c.   Discuss the guidelines for activity models. **(04 Marks)**

4   a.   Discuss the steps to construct a domain class model with an example. **(12 Marks)**
    b.   Explain the software development stages. **(08 Marks)**

PART – B

5   a.   Explain any 2 steps to construct an application model with an example. **(06 Marks)**
    b.   Prepare a state diagram for session controller. **(06 Marks)**
    c.   Explain batch transformation and continuous transformation architectural styles. **(08 Marks)**

6   a.   List and explain the steps involved in the design of algorithms. **(08 Marks)**
    b.   Write briefly on : i) Fine tuning class   ii) Design optimization. **(06 Marks)**
    c.   Differentiate between forward engineering and reverse engineering. **(06 Marks)**

7   a.   What is a pattern? Explain the properties of pattern for software architecture. **(08 Marks)**
    b.   Explain the model view controller design pattern for software architecture with OMT class diagram. **(06 Marks)**
    c.   Two peers P1 and P2 communicate with each other. For this purpose P1 uses a forwarder Forw1 and receiver recv1, P2 handles all message transfers with a forwarder Forw2 and receiver recv2. Design a scenario which illustrate a typical example of this use of a forwarder – Receiver structure. **(06 Marks)**

8   a.   What are idioms and styles? Explain the Publisher – Subscriber design pattern. **(10 Marks)**
    b.   Write the steps to implement the counter pointer idiom. **(10 Marks)**

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