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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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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.