USN ☐☐☐☐☐☐☐☐☐☐

Fifth Semester MCA Degree Examination, December 2012
Object – Oriented Modeling and Design Patterns

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1   Write short notes on the following, association and depict the UML diagram.
  a.   Association end names
  b.   Association classes
  c.   Bags and sequences
  d.   Qualified associations.   (20 Marks)

2 a.   Describe aggregation and composition, draw their UML notation, with an example.
                                                                                              (08 Marks)
   b.   Write in detail, the constraints in advanced class modeling and uses of constraints.
                                                                                              (12 Marks)

3 a.   Explain in detail, "Aggregation concurrency", "concurrency within an object", and
         "synchronization of concurrent activities" in advanced state modeling.   (15 Marks)
   b.   What are the guidelines for use case models?   (05 Marks)

4 a.   What is a domain class model? What are the steps to construct a domain class model?
                                                                                              (06 Marks)
   b.   Write in detail, the "Finding associations and keeping the right association in domain class
         model".   (08 Marks)
   c.   Explain in detail the "Finding classes and keeping the right classes in domain class model",
         with an ATM example.   (06 Marks)

5 a.   What is system design? What are the key points to consider during system design?
                                                                                              (08 Marks)
   b.   Describe the components to consider while creating a reuse plan during system design, with
         example.   (12 Marks)

6 a.   Explain the different steps involved in designing algorithms.   (08 Marks)
   b.   What is reverse engineering? Compare reverse engineering Vs forward engineering.
                                                                                              (12 Marks)

7   Explain in detail, the forwarder – receiver design pattern, draw sequence diagram and class
     diagram.   (20 Marks)

8   Illustrate in detail, the command processor design pattern, draw sequence diagram and class
     diagram.   (20 Marks)

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