Code No: 823AB

R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA III Semester Examinations, June/July - 2018
OBJECT ORIENTED ANALYSIS AND DESIGN USING UML

Time: 3hrs   Max.Marks:75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

                                                                      5 × 5 Marks = 25

1.a)   Explain the conceptual model of the Unified Modeling Language.   [5]
  b)   Compare and contrast is-a relationship with has-a relationship with suitable examples.[5]
  c)   How is recursion represented in a sequence diagram? Give example.   [5]
  d)   What are the characteristics of a well-structured state machine?   [5]
  e)   What is Framework? Explain with an example.   [5]

PART - B

                                                                      5 × 10 Marks = 50

2.a)   State the advantages of object oriented modeling over structured approaches.
  b)   What is modeling? What are the principles of modeling? Explain.   [5+5]

OR

3.a)   With a neat diagram, explain the object oriented software development life cycle and its phases.
  b)   Explain the various views considered in modeling a system's architecture.   [5+5]

4.a)   What are the constraints applied to association relationships? Discuss.
  b)   Discuss about the common properties, uses and contents of object diagrams.   [5+5]

OR

5.a)   What are the visibility specifiers used for classes and packages? Explain.
  b)   Explain in detail the steps to model structural relationships.   [5+5]

6.a)   Explain the various relationships possible among use cases and illustrate them with UML notation.
  b)   Draw a use case diagram that depicts the library application.   [5+5]

OR

7.a)   Discuss the semantic equivalence between different interaction diagrams.
  b)   What is the purpose of Activity diagram? With suitable diagram, explain the notations used in Activity diagram.   [5+5]

8.a) How to model family of signals and exceptions with UML diagrams? Demonstrate.

b) What are the characteristics and common uses of component diagrams? Discuss.   [5+5]

OR

9.a) Define event and signal. What are the four kinds of events modeled by UML? Explain.

b) What are the characteristics of a well-structured deployment diagram? Explain.   [5+5]

10.a) What is design pattern? How to use design pattern effectively? Explain.

b) With a neat sketch, explain about Artifact diagrams and its significance.   [5+5]

OR

11. Develop the following diagrams in the context of Unified Library Application.

a) Class diagram   b) Sequence diagram   c) Activity diagram   [10]

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