MCA/D-17

Object Oriented Analysis And Design Using UML

Paper: MCA-14-31

Time: Three Hours   Maximum Marks: 80

Note: Attempt five questions including No. 1 which is compulsory. All questions carry equal marks.

Compulsory Question

1. Answer the following questions in brief :

    (a) Explain the following terms in UML: collaboration note, stereotype, active class.
    (b) Distinguish between concurrency and modularity.
    (c) Explain the following w.r.t. state modeling : action, activity, call event, time event.
    (d) What do you mean by hardware and software tradeoffs? Explain.

UNIT-I

2 (a)   What are extensible mechanism in UML? Explain them with suitable examples.

   (b)   What is dependency relationship in UML? Explain different types of usage Dependencies with a suitable examples of each.

3. (a) What is deployment diagram? Explain with an example.

    (b) What is object diagram? Explain with an example.

UNIT-II

4. Explain in the following concepts with examples : unary association, ternary association, qualifier, aggregation, multiple inheritance, meta data association attribute, sequence.

5. (a) What are constraints? What are different types of constraints? Explain with Examples.

    (b) Draw a class diagram for University Registration System showing all possible association end names.

UNIT-III

6. (a) What is state diagram? Draw a state diagram to withdraw money from ATM.

   (b) What is use case diagram? Draw a use case diagram for a cell phone.

7. (a) What is sequence diagram? Draw sequence diagram to send an SMS.

   (b) Draw activity diagram to delete a massage in cell phone using concept of swim lanes.

UNIT-IV

8. (a) What is application class model? Explain the steps of this model.

   (b) Explain any four common architectural styles.

9. Differentiate between the following :

   (a) Frame work and pattern.
   (b) Procedure-driven and event-driven control.
   (c) Functionality layer and mechanism layer.