

Roll No.

Total Pages : 4

CAME/D-20

24027

**OBJECT ORIENTED ANALYSIS AND DESIGN
USING UML**

Paper–MCA-20-15

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting **one** question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. Answer the following questions in brief : $5 \times 3 = 15$
 - (a) What is Link class? Give two examples.
 - (b) What do you mean by Metadata? Explain different types of metadata with examples.
 - (c) What is Model? Why do we model?
 - (d) What are Trade-off priorities? Explain.
 - (e) Distinguish between Include and Extend relationships.

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UNIT-I

2. (a) Explain the term Concurrency and Persistence of object with examples. 5
- (b) Explain the following in UML with examples :
collaboration, component, notes, node and package. 10
3. (a) Explain dependency, realization, hierarchical inheritance and hybrid inheritance with suitable examples. 8
- (b) What are Extensibility mechanisms in UML? Explain each with examples. Also explain constraints on generalization sets. 7

UNIT-II

4. What is Association? Explain the following about association with suitable examples : 15
multiplicity, bags, aggregation, qualified association, ternary association.
5. (a) Explain the following concepts about State modeling with examples :

change event, entry and exit conditions, signal generalization. 8

(b) Draw the nested state diagram for making a phone call on Landline phone. 7

UNIT-III

6. (a) What is Usecase? How do you find usecases? Explain the generalization relationship among usecases with suitable example. 7

(b) What is Usecase diagram? Draw a usecase diagram for Library Management system. 8

7. (a) What are elements of Sequence diagram? Draw a sequence diagram to withdraw Money from ATM. 8

(b) What is Activity diagram? Explain different control nodes used in activity diagram with suitable examples. 7

UNIT-IV

8. (a) Explain the following design decisions :
choosing software control strategies, handling global resources. 7

- (b) Explain the following Class design activities :
choosing algorithm, realizing usecases with
operations. 8
9. (a) Explain different activities of Domain Class
Model.
8
- (b) Explain different activities of Application
Interaction Model. 7

