

**MASTER OF COMPUTER
APPLICATIONS (MCA—NEW)
Term-End Examination
June, 2025**

**MCS-219 : OBJECT ORIENTED ANALYSIS
AND DESIGN**

Time : 3 Hours

Maximum Marks : 100

Note : (i) *Question No. 1 is compulsory and carries 40 marks.*

(ii) *Attempt any **three** questions from the rest.*

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1. (a) What is OOAD ? Briefly explain the advantages of OOAD. 8

- (b) What is abstraction in OOAD ? Explain why abstraction is used. Illustrate with the help of an example. 8
- (c) What is UML ? Draw hierarchy of UML-diagrams. 8
- (d) What is inheritance ? Explain the basic rules (semantic rules) for inheritance. 8
- (e) What is one-to-one association ? Explain with an example. Also, explain how one-to-one associations are implemented. 8
2. (a) What is object modeling ? What is the output of object modeling ? Explain how an object diagram is created with the help of an example. 10

- (b) What is a use-case diagram ? Where can we use use-case diagrams ? Explain include dependency in use-case with the help of an example. 10
3. (a) Explain an event, state and transition in context of state diagram with the help of an example. 10
- (b) What is the basic purpose of drawing a component diagram ? Draw component diagram for online Banking System and explain it. Make necessary assumptions. 10
4. (a) What is DFD ? Draw DFDs upto 2nd level for Online Banking System. Also, briefly explain the meaning of balancing a DFD. 10

- (b) What is the need of a design documentation ? What are different types of it ? Also, explain features of a good design document. 10

5. Write short notes on the following : $4 \times 5 = 20$

- (a) Collaboration diagram
- (b) Data Persistence
- (c) Mapping object classes to tables
- (d) Class Diagram

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