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.*

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 : 4×5=20

(a) Collaboration diagram

(b) Data Persistence

(c) Mapping object classes to tables

(d) Class Diagram

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