

No. of Printed Pages : 5

**MCS-219**

**MASTER OF COMPUTER  
APPLICATIONS (MCA—NEW)**

**Term-End Examination**

**June, 2026**

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

*Time : 3 Hours*

*Maximum Marks : 100*

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

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

1. (a) An ATM system is a system having many subsystems. The customer is asked to go through an authorization or login module for successful login. Once authorization is done, the customer proceeds to the transaction module. The transaction could be of different types such as withdrawal, check balance, print receipts, etc. The bank also gets involved depending on the nature of transaction. The system administrator is responsible for the system maintenance and shut down. Make necessary assumptions and perform the following for this system :

- (i) Draw use case diagrams. 5

- (ii) Give description for at least *two* use cases. 10
- (iii) Draw the class diagram. 5
- (iv) Draw the sequence diagram. 5
- (v) Draw the state diagram. 5
- (b) What are basic building blocks of UML ? Explain. 5
- (c) What do you mean by constraints ? What are different types of constraints ? Explain. 5
- 2. (a) What is an interaction diagram ? What are its objectives ? Discuss *two* types of interaction diagrams. 7
- (b) Draw an activity diagram for email processing system. 7
- (c) What is an Event ? Discuss the types of events with an example. 6

3. (a) Define signals. How are signals modelled and how are exceptions handled ? 5
- (b) What is DFD ? Explain the features of DFD. Draw DFDs upto 2nd level for online banking system. 10
- (c) What is object design ? What steps are involved in object design ? 5
4. (a) Design an object model for sales order system. 7
- (b) Describe the dynamic model with an example. 7
- (c) Draw the state diagram for mobile banking system. 6

5. Write short note on the following : 4×5=20

- (a) Advantages of OOAD
- (b) Implementation of Association
- (c) Sequence Diagram
- (d) Design Documentation

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