

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

**Term-End Examination**

**June, 2022**

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

*Time : 3 hours*

*Maximum Marks : 100*

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**Note :** Question no. 1 is **compulsory** and it carries 40 marks. Attempt any **three** questions from the rest.

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1. (a) What is object orientation ? Explain the principles of object orientation. Also list the advantages of object orientation. 10
- (b) What is generalization ? How is it different from specialization ? Explain with the help of an example and diagram. 10
- (c) What is UML ? Explain the advantages of using UML. Draw a use case diagram for book issue and return in a library system. Make necessary assumptions. 10

- (d) What is association ? Explain the advantages of two-way association over one-way association, with the help of an example. 10
2. (a) What is a class diagram ? Draw a class diagram for “Online Banking System”. Make necessary assumptions. 10
- (b) What is DFD ? List the symbols used in DFD. Draw up to level 1 DFD for an “Online Banking System”. Make necessary assumptions. 10
3. (a) What is a dynamic model ? Explain any two UML diagrams used in dynamic modelling. 10
- (b) Explain how classes of a system are mapped to database tables, with the help of a suitable example and diagram. 10
4. (a) Explain the concept of inheritance and polymorphism in OOAD, with the help of examples. 10
- (b) What is aggregation ? Why is it called a special kind of association ? Explain with the help of an example. 10

5. Write short notes on the following :

4×5=20

- (a) State Diagram
  - (b) Object Design
  - (c) Implementing Association
  - (d) Integrity Constraints
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