

MCA (Revised)
Term-End Examination
June, 2021

MCS-032 : OBJECT ORIENTED ANALYSIS AND DESIGN

Time : 3 hours

Maximum Marks : 100

Note : Question no. 1 is **compulsory**. Attempt any **three** questions from the rest.

1. (a) A University wants to conduct online entrance test for admission in its post-graduate programmes. The system developed for this activity should accept online applications for different programmes on offer. The system should verify registration fees paid and eligibility criteria. Also, the system should allocate examination centre and generate Examination Hall tickets. Make necessary assumptions wherever required and perform the following for this system :

4×5=20

- (i) Draw class diagram.
- (ii) Draw use case diagram.
- (iii) Draw object diagram.
- (iv) Draw state diagram.

- (b) What is DFD ? How is it related to ERD ? Explain with the help of an example. 10
- (c) What is Abstraction ? Explain with the help of an example. 5
- (d) Explain briefly the UML notation used for the following : 5
- (i) Interface
- (ii) Aggregation
- 2.** (a) What is Activity Diagram ? Draw an activity diagram for online fund transfer from one account of a bank to an account in another bank. 10
- (b) Draw a use case diagram for ATM cash withdrawal. 5
- (c) Explain the object-oriented decomposition of a system with the help of an example. 5
- 3.** (a) Define the following terms, giving at least one example of each : $4 \times 2 \frac{1}{2} = 10$
- (i) Object
- (ii) Polymorphism
- (iii) Generalization
- (iv) Serialization
- (b) Explain Extended Three-Schema Architecture for object models with the help of a diagram. 10

4. Write short notes on the following : 4×5=20
- (a) Concurrency Control in Dynamic Modelling
 - (b) Inheritance
 - (c) Object-Oriented Databases
 - (d) Deployment Diagram
5. (a) Explain how a ternary association is mapped into table. 5
- (b) Differentiate between a Sequence diagram and a Collaborative diagram with the help of examples. 10
- (c) Briefly explain the benefits of Object-Oriented Modelling. 5
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