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MCS–219

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

Term-End Examination

June, 2024

**MCS-219 : 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) What is object oriented modeling ? List advantages of object oriented modeling. Explain various stages in object oriented modeling. 10

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- (b) What is a time-critical system ? Explain, how objects communicate in time-critical system. Also, explain the need of synchronization in time-critical system. 10
- (c) What is persistent object ? How is it different from transient object ? 5
- (d) What are derived attributes ? Discuss the role that they play in design-optimization ? 5
- (e) What is association ? Explain one-to-one association with the help of a class diagram. Also, explain how it is implemented. 10
2. (a) What is collaboration diagram ? Explain, how methods are created from collaboration diagram with the help of an example. 10

- (b) What is design-optimization ? Explain the tasks to be performed for design-optimization. 10
3. (a) Define abstraction. Explain, how abstraction results in modularity. Also, explain the need of inheritance adjustments in the design process. 10
- (b) What is DFD ? Explain the advantages of using DFD. Draw 0-level and 1-level DFD's for online examination system. Make necessary assumptions. 10
4. (a) What is dynamic model ? Explain the use of dynamic model with the help of suitable diagrams. 10
- (b) What is use case diagram ? Explain various components of use case diagram. Draw a use case diagram for online examination system. Make necessary assumptions. 10

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

- (a) Aggregation
- (b) Integrity constraints
- (c) Implementation of controls
- (d) Object model