

M.Sc. Fourth Semester Degree Examination
COMPUTER SCIENCE — Paper - 4.1
Object Oriented Analysis and Design Using UML
(Revised Syllabus w.e.f. 2009-10)
(New)

Time : 3 Hours]

[Max. Marks : 80

Instructions : 1) The Section - A is **compulsory**.2) Answer any **five** questions from Section - B.

SECTION – A

1. Answer the following : **(10 × 2 = 20)**
- (a) What is OOAD?
 - (b) What is an object? Give an example.
 - (c) What is inheritance?
 - (d) Define use-case.
 - (e) What is a state diagram?
 - (f) What is an interaction diagram?
 - (g) What is a sequence diagram?
 - (h) Distinguish between coupling and cohesion.
 - (i) Give an example of interaction diagram.
 - (j) What is the significance of deployment diagram?

SECTION – B

2. (a) Explain the advantages of OOAD.
- (b) Discuss the characteristics of object oriented systems. **(6 + 6)**
3. (a) What is UML? Explain how inheritance is shown in class diagram.
- (b) Explain use-case modeling with suitable examples. **(6 + 6)**

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4. (a) Critically explain “object identification is one of the major challenges in OOAD”.
- (b) Explain the characteristics of the system that can be identified by examination of the state diagram of that system. **(6 + 6)**
5. (a) Draw a state diagram for a Net Bank ATM system.
- (b) Explain object model and dynamic model with examples. **(6 + 6)**
6. (a) What is aggregation? Discuss its representation in UML.
- (b) Discuss common associations used in OOAD. **(6 + 6)**
7. (a) Enumerate the steps to model collaborations.
- (b) Discuss the different events that can be modeled by UML. **(6 + 6)**
8. Write short notes on the following : **(2 × 6 = 12)**
- (a) Significance of activity diagrams
- (b) OO testing.