

PMM/KS/15/7020

Faculty of Engineering & Technology

Fourth Semester B.E. (Infor. Tech.) (C.B.S.)

Examination

OBJECT ORIENTED METHODOLOGY

Time : Three Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
- (2) Solve Question No. 1 **OR** Question No. 2.
- (3) Solve Question No. 3 **OR** Question No. 4.
- (4) Solve Question No. 5 **OR** Question No. 6.
- (5) Solve Question No. 7 **OR** Question No. 8.
- (6) Solve Question No. 9 **OR** Question No. 10.

1. (a) Prepare an instance diagram for the expression :
 $(2x + y/2) / (x/3 + 3y)$.

4

(b) What is meant by Object Orientation ? Discuss various stages of OMT.

5

(c) Write short notes on :

(i) Role name

(ii) Association.

4

OR

2. (a) What are abstract class, concrete class ? Explain the object model for concrete and abstract class.

5

(b) Explain the difference between Aggregation and Generalization.

4

(c) Give object modelling notation (graphically) for a class with complete specification for attributes and operations.

4

3. (a) Prepare a data flow diagram for computing the volume and surface area of a cylinder. Give several ways of implementing the data flow diagram.

5

(b) Prepare scenario and event trace diagram for telephone system.

8

OR

4. (a) Draw state diagram with guarded transitions for traffic light at an intersection. One pair of electric eye checks the north-south left turn lanes, another pair checks the east-west turn lanes. If no car is in the north-south and/or east-west turn lanes then the traffic light control system logic is smart enough to skip the left turn portion of the cycle. 5
- (b) Explain and draw entry and exit action for opening and closing the door. 4
- (c) Explain Nested state diagram with example. 4
5. (a) Explain dynamic modelling and its various phases. 8
- (b) Explain the following with examples :
- (i) Event driven system
- (ii) Procedure driven system
- (iii) Concurrent system. 6

OR

6. (a) Draw an object model with attributes and inheritance for ATM network. 9
- (b) Write down the various stages involved in analysis. 5
7. (a) What are the advantages and disadvantages of using a database system ? 6
- (b) Explain allocation of sub-system. 7

OR

8. (a) List the various steps needed during system design. Explain any three of them in detail. 8

- (b) Write a short note on handling boundary conditions. 5
9. (a) How the algorithms are chosen during object design ? Explain in detail. 8
- (b) Explain with example :
- (i) One-way association
- (ii) Two-way association
- (iii) Object representation. 6

OR

10. (a) What are various issues involving in packaging ? 6
- (b) Specify techniques of converting state diagram into pseudo code with reference to 'ATM Control'. 8
11. (a) What is Reusability ? List and explain types of reusability. Also explain the style rules for Reusability. 8
- (b) Explain programming styles for following :
- (i) Implementation using programming languages.
- (ii) Implementation using database system. 5

OR

12. Write short notes on :
- (1) Robustness 3
- (2) Extensibility 3
- (3) Object Representation 4
- (4) Programming in the large. 3

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