B4.3-R4: OBJECT ORIENTED DATABASE MANAGEMENT SYSTEMS

NOTE:

1. **Answer question 1 and any FOUR from questions 2 to 7.**
2. **Parts of the same question should be answered together and in the same sequence.**

Time: 3 Hours **Total Marks: 100**

1.

a) Differentiate between Static and Dynamic Polymorphism.
b) Explain Virtual Functions with a suitable example.
c) Describe two objects that are deep equal but not shallow equal or explain why this is not possible.
d) What is ODL? Explain with a suitable example.
e) Why is a CORBA application multithreaded in nature?
f) How can name conflicts be avoided in XML?
g) What is the role of Abstract Data Objects in OODBMS?

(7x4)

2.

a) What are the advantages of embedded query language? Give an example of a embedded SQL query.
b) What is/are the difference(s) between OO and procedural programming?
c) Write a program to overload the unary minus operator using friend function?

(6+6+6)

3.

a) Briefly discuss various models for Object Analysis.
b) What is multiple inheritance? Discuss the syntax and rules of multiple inheritance in C++. How can you pass parameters to the constructors of base classes in multiple inheritance? Explain with suitable example.

(9+9)

4.

a) Discuss Object-Relational support provided in SQL-99 with examples?
b) Discuss most important tags from the XML-Schema namespace with examples.

(9+9)

5.

a) Discuss ORION database system in terms of data model support, architecture and specific features.
b) What are exceptional attributes and exceptional methods in O2?

(12+6)

6.

a) Design a database for a bank, including information about customers and their accounts. Information about a customer includes their name, address, phone, and social security number. Accounts have numbers, types (e.g., savings, checking) and balances. Also record the customer(s) who own an account. Draw the ER diagram for this database. Be sure to include arrows where appropriate, to indicate the multiplicity of a relationship. Render this design in ODL, including keys as appropriate.
b) What are the features of embedded SQL? Explain.

(12+6)

7.

a) What is Information Integration? Briefly discuss different modes of Information Integration? What possible problems occur in Information Integration?

b) What do you mean by integrity constraints? Explain the two constraints, check and foreign key in SQL with an example for each. Give the syntax.

(10+8)