Sl. No.

B4.3-R4: Object Oriented Database Management System

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: Procedural Oriented Programming and Object Oriented Programming

(b) What is virtual function in C++? Write the rules for virtual function.

(c) List the widely used UML notation. Briefly explain class notation.

(d) How to declare a SQL method with ODL? Explain it with suitable example.

(e) Write the features of Object Query Language (OQL).

(f) Explain about object containment.

(g) What is DTD (Document Type Definitions)? Explain it with its basic syntax.   **(7x4)**

2. (a) Compare and contrast the features of RDBMS with OODBMS.

(b) What is the content of XML documents? What is specified by Document type Declaration (DTD) ?   **(9+9)**

3. (a) Explain the class declaration, element declaration and method declaration with ODL using suitable example.

(b) Differentiate between strong entity set and week entity set in an ER model.

(c) Explain the concept of virtual function in C++ with example.   **(6+6+6)**

4. (a) List the types of cardinal relationship and explain it with suitable example.

(b) What is polymorphism? Explain it with suitable example.

(c) Explain semi-structured data with its characteristics.   **(6+6+6)**

5. (a) What are the challenges in implementing ORDBMS?

(b) Define ODL. Explain multiway relationship in ODL with suitable example.

(c) What is semi-structured data? Explain the characteristics of semi-structured data.
      (6+6+6)

---

6. (a) Explain Generalization, Association, Composition, Abstraction and Aggregation in object hierarchy with suitable example.

(b) What is ER diagram? Explain the various components of ER diagram. **(9+9)**

7. (a) Explain the usage of friend function in object oriented programming with example.

(b) Differentiate between method overloading and method overriding.

(c) Compare and contrast OLTP and OLAP. **(6+6+6)**

- o O o -