No. of Printed Pages : **2**

Sl. No.

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**

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1. (a) What is purpose of using Document Type Definition (DTD) for XML ? Explain with example.

(b) What is the significance of data cube in multidimensional data analysis ? Explain the concept of cuboids in data cube.

(c) What is object hierarchy ? Explain the significance of Generalization, Association and Aggregation in object hierarchy.

(d) What is database modeling ? Explain the steps required to maintain good object oriented design in database modeling.

(e) How Object Query Language improve the performance in terms of efficiency of the OODBMS as compared to Structured Query Language (SQL) ?

(f) Explain with a suitable example how the object relationships are modeled in object oriented programming.

(g) What are the difficulties of OODBMS queries regarding Optimization ? **(7x4)**

2. (a) How to convert ER Model into Object Oriented Relationship Model ? Explain with the help of suitable example.

(b) What is Object Definition Language (ODL) ? What are Inverse Relationship and Multiplicity of Relationship in ODL ? Give example of both. **(9+9)**

3. (a) What is well formed XML document ? How it is differing from validated XML document ?

(b) Explain the Coad-Yourdon methodology for system analysis and design.

(c) Explain standard features available in oracle to support the object oriented database management concepts. **(6+6+6)**

4. (a) What are the design goals of object oriented query language (OQL) ?

(b) What is Semi-structured data ? Explain different issues with semi-structured data ? **(9+9)**

5. (a) Explain the principal concepts and components constituting an object-oriented database system with neat sketch.

(b) What is object relational framework ? Explain essential characteristics of an object relational framework. **(8+10)**

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6. (a) What is semantic metadata ? How to capture the semantic of the object in object oriented database management system using semantic metadata model ?

(b) The dynamic binding property of object oriented systems increases their flexibility enormously. Justify the statement with suitable example. **(9+9)**

7. (a) The enhanced functionality of ORDBMS raises several implementation challenges. Explain challenges regarding Storage and Access Methods, Query Processing and Optimization, Method Security and Method Caching.

(b) What is Object oriented data model ? Which basic object oriented concepts are supported by Object oriented data model ? **(10+8)**

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