

## **B4.3-R4 : OBJECT ORIENTED DATABASE MANAGEMENT SYSTEMS**

**NOTE :**

1. Answer question 1 and any FOUR questions from 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) What is the purpose of the struct keyword in ODL ? Explain with an example.  
(b) What are well-formed XML Document ?  
(c) Explain the term transaction integrity.  
(d) Compare the term deadlock prevention and deadlock resolution.  
(e) What is Inheritance ? Which are the types of Inheritance ?  
(f) What is the role of Database tuning ?  
(g) Define virtual Function. **(7x4)**
  
2. (a) Using a class diagram, give an example for each of the following types of relationships: unary, binary, and ternary. Specify the multiplicities for all the relationships.  
(b) Develop an ODL schema for the following problem situation. A student, whose attributes include studentName, Address, phone, and age, may engage in multiple campus-based activities. The university keeps track of the number of years a given student has participated in a specific activity and, at the end of each academic year, mails an activity report to the student showing his participation in various activities. **(9+9)**
  
3. (a) Explain generalization and specialization in Object Relational Data Model.  
(b) What is Object Modelling Techniques ? What are different OMT Models ? **(6+12)**
  
4. (a) What does Object Oriented Database mean ? Explain the approach for designing an Object oriented database.  
(b) Given any application, how will you model and design the database using Object-Relational DBMS Approach ? **(12+6)**
  
5. (a) Discuss the concept of encapsulation and explain its use to create abstract data types.  
(b) Explain OLAP database objects : Cubes, Data Sources, Fact Tables, Database roles. **(9+9)**

6. (a) Explain Booch Methodology for OO Design ?  
(b) Explain various features of Coad/Yourdon notation for OO Design ?  
(c) Describe Object Exchange Model for semi structure data representation. (6+6+6)
7. (a) Compare RDBMS, OODBMS and ORDBMS.  
(b) Explain the structure of Document Type Definition with an example. (9+9)

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