

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) Explain various design principles of OQL (Object Query Language).
 (b) Explain how multiple inheritance is carried out in ODL with example.
 (c) Differentiate Text Centric v/s Document Centric XML Retrieval.
 (d) Compare View with Materialized View.
 (e) How Object Query Language (OQL) differ from Structured Query Language (SQL)?
 (f) Explain Inline function with example? What is difference between macro and inline function?
 (g) Explain nested relation in ODL with example. (7x4)

2. (a) Provide well-formed XML document that corresponds to DTD given below:

```
<?xml version = "1.0" standalone="yes"?>
<!DOCTYPE document [
<!ELEMENT document (employee)*>
<!ELEMENT employee (name, hiredate, projects)>
<!ELEMENT name (lastname, firstname)>
<!ELEMENT lastname (#PCDATA)>
<!ELEMENT firstname (#PCDATA)>
<!ELEMENT hiredate (#PCDATA)>
<!ELEMENT projects (project)*>
<!ELEMENT project (product,id,price)>
<!ELEMENT product (#PCDATA)>
<!ELEMENT id (#PCDATA)>
<!ELEMENT price (#PCDATA)>
]>
```


 (b) Compare Object Oriented Data Model with Object Relational Model. (9+9)

3. (a) Explain characteristics and use of friend function with example.
 (b) Explain Booch notations and provide example of OOD in terms of ER Diagram.
 (c) What are the various types used in ODL (Object Definition Language) ? (6+6+6)

4. (a) What are the characteristics of Object Oriented Language? Explain polymorphism and encapsulation concept with example.
(b) What is operator overloading? Explain with example and provide rules for operator overloading. (9+9)
5. (a) What is Semi-structured data? Explain with an example representation of semi-structured data.
(b) Explain Shlaer/Meelor notations and provide example of OOD in terms of ER Diagram.
(c) What is the difference between OLAP and OLTP? (6+6+6)
6. (a) What are the various weaknesses of Object Oriented Database Management System (OODBMS)?
(b) Construct an E-R diagram for university registrar's office maintains following data. Provide appropriate relationship among entities.
(i) Course including course number, credit, syllabus
(ii) course-offering including course number, year, sem, ins_id
(iii) Student including std_id, name, program
(iv) Instructor including ins_id, name, dept, title (9+9)
7. (a) Draw neat sketch of CORBA Architecture and explain in detail its major components.
(b) List and explain various ORDBMS implementation challenges. (9+9)

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