B.E (IT) VII (R)
Advance Database System

Con. 3552–09. VR–4839

(3 Hours) [Total Marks : 100

30/5/09

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from remaining **six** questions.
(3) Make **suitable** assumptions whenever **required**.

1. (a) Explain the following concept :— **10**
   (i) Data
   (ii) Database
   (iii) Database management system
   (iv) SQL
   (v) OQL
   (b) What is the difference between structured semistructured and unstructured data. What do you understand by the term self-describing data ? **10**

2. (a) Describe the steps for mapping EER Schema to an ODB Schema. **10**
   (b) Draw and explain architecture for parallel database with the help of example. **10**

3. (a) Explain design and implementation issues in mobile databases. Comment on limitations. **10**
   (b) Describe the following OQL concepts : **10**
   (i) Database entry point
   (ii) Path expression
   (iii) Aggregate functions.

4. (a) Explain different types of temporal relational databases. **10**
   (b) Explain deductive database with respect to need, storage, optimization and querying. **10**

5. (a) Compare and contrast the object and the relational data models. **10**
   (b) Explain ORDBMS with reference to **10**
   (i) Representing multivalued attributes using VARRAY
   (ii) Nested Tables.

6. Consider a banking system where each bank has multiple branches and each branch can have multiple account and loan. **20**
   (i) Draw an EER Diagram
   (ii) Design object oriented Database Schema for the same
   (iii) Using OQL retrive the name of all customers having a loan amount more than 2 lakh.
   (iv) Prepare XML Schema design for the database.

7. Write short notes on (any **four**) :— **20**
   (a) Object Identity
   (b) Persistent datatype
   (c) Subclass / Superclass
   (d) Complex Objects
   (e) GIS (Geographical Information System)
   (f) Active database.