

Advance Database Systems / E.L.

VT-S.H.Exam. Dec.-12- 87

Con. 10358-12.

(OLD COURSE)

KR-2700

(3 Hours)

[Total Marks : 100

- N.B. :** (1) Question No. 1 is **compulsory**.
 (2) Solve any **four** questions from remaining **six** questions.
 (3) **Figures** to the **right** indicates **full** marks.
 (4) Assume **suitable** data wherever **necessary**, mention the **same**.

1. (a) What are the advantages of object oriented databases ? 5
 (b) What is the concept of object identity and object structure ? 5
 (c) Distinguish between XML-DTD and XML schema. 5
 (d) What do you understand by structured, unstructured and semistructured data ? 5
2. (a) Consider Bank database that keeps track of transactions of different branches. Design object oriented schema for the system. 10
 (b) Explain object oriented concepts related to complex objects. 10
3. Design the database which manages information about publisher, authors and books with the following information about the system :-
Publisher : name and address of the headquarters,
 set of branches,
 branch address,
 branch phone nos. (consider 2 phone numbers).
Author : name and address :
 Book is published by a publisher and has a list of address associated with it.
 An author can publish several books but a book is published by at most one publisher.
 - (a) Draw a EER diagram for the above specifications. 5
 - (b) Specify an object relational database schema that represents the above properties. 5
 - (c) Describe the steps for mapping EER schema to an ODB schema. 5
4. (a) Explain : horizontal, vertical and derived fragmentation with example. 10
 (b) Explain 2-tier and 3-tier client-server architecture in detail. 10
5. (a) Explain the silent features of spatial database. Show how GIS is developed from spatial databases. 10
 (b) Explain the need of relational object and object relational databases with suitable example. 10
6. (a) Explain the architecture of parallel database. 10
 (b) Explain Mobile database in details. 10
7. Write short notes on (any two) :- 20
 - (a) Architecture of Distributed database
 - (b) Temporal database
 - (c) X-path and X-query
 - (d) Query optimization.