

- N.B. :** (1) Question No. 1 is **compulsory**.  
(2) Attempt any **four** questions out of remaining **six** questions.  
(3) **Figure** should be **neat** and **clean**.

Q1. To design and implement a database that manages information about publisher, author, and books. Some information includes: A publisher has a name and an address for the headquarters. Each publisher also has a set of branches, each branch having an address and two phone number. An author has a name and an address. A book is published by publisher and has a list of authors associated with it. An author can publish several books and a book can be published by only one publisher.

- 1) Draw an extended E-R diagram for the system. [20]
- 2) Draw an object oriented schema
- 3) Take two typical queries and write them in OQL. [20]

- Q2.a) How concurrency control & recovery is done in distributed database [10]  
b) Describe the feature of SQL 3 [10]

- Q3.(a) Explain data fragmentation. Replication and allocation technique for distributed database design [10]  
b) Describe architecture for parallel database [10]

- Q4.a) What is XML application? Explain querying & transformation of XML data [10]  
b) Give the general architecture of mobile computing using wireless & Client network relationship [10]

- Q5.a) what are the application of data ware housing and data mining ? [10]  
b) Write notes on Temporal Database. [10]

- Q6.a) Define the concept of nested relation in ORDBMS with example [10]  
b) Write notes on Geographical information system (GIS). [10]

- Q7. Write short notes on any Four :- [20]

- a) Subclass and super class
- b) Persistent object
- c) Transient object
- d) Object identity
- e) Object structure .