(3 Hours)   Total Marks:80

N.B. : (1) Question No. 1 is compulsory
         (2) Attempt any three questions out of remaining five.

1. (a) Explain Query Processing in distributed databases.   20
   (b) What is Need of Document Oriented database
   (c) Explain cost based query optimization.
   (d) What is SQL Injection ? Given one example

2. (a) What is External sorting in Query processing   10

   (b) Consider the following schema   10
   Department (Dno, Dname, Budget, Location)
   Employee(Eid, Ename, Title, Dno)
   Salary(Title, Salary)
   Show one example of Horizontal and vertical fragmentation with fragmentation rules in detail

3. (a) Explain Three Phase Commit Protocol in detail   10

   (b) What is XML? also explain xml schema document with example.   10

4. (a) Draw and explain architecture for distributed database system   10
   (b) Explain different types of Spatial Data models   10

5. (a) Write a short note on Temporal Data Model   10
   (b) Explain Discretionary access control in detail.   10

6. Write a short note on (Any 2)   20
   (a) Single-Level Ordered Indexes
   (b) Replication and Allocation Techniques for Distributed Database Design.
   (c) Mandatory Access Control Access Control for Multilevel Security

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