



- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Assume suitable data whenever necessary.
 9. Diagrams should be given whenever necessary.
 10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain with neat diagram the architecture of distributed database system. **8**
- b) Give designed property of DDBS. **2**
- c) Explain in brief Concurrency control in DDBMS. **4**

OR

2. a) Compare Homogenous and Heterogenous Databases. **6**
- b) How query processing can be achieved in DDBS? **4**
- c) Write a short note on commit protocol. **4**
3. a) What are the goals of parallel databases? Give its advantages and disadvantages of it. **5**
- b) List all architecture models for parallel databases. Explain shared disk multiple CPU parallel Database architecture. **8**

OR

4. a) Explain speed -up and scale-up elements of parallel Database processing. **8**
- b) What do you mean by query parallelism? Explain Intra- query parallelism. **5**
5. a) Illustrate complex data types? **5**
- b) Explain with example structured types and type inheritance. **8**

OR

6. a) Explain the persistence of objects. Explain the different ways to make the object persistent. **7**
- b) Describe in detail various data types in SQL. **6**

7. a) Illustrate XMC representation of purchase order. 8
b) Write in brief about. 6
i) Document type definition.
ii) XML schema.

OR

8. a) Explain the terms w.r.t. tree model of XML. 8
i) X Path
ii) X Query
iii) API in XML.
b) Describe the structure of XML Data. 6
9. a) Define Data warehouse. Describe the various component of Data warehouse. 7
b) Difference between. 6
i) Operational Vs Informational system.
ii) Data warehouse Vs Data marts.

OR

10. a) Explain multidimensional databases. 5
b) Define Datacube Give various operation that are performed on cube. 8
11. a) What are the different types of Security? 3
b) What are the various threats to databases? 3
c) Illustrate the security based issues on granting and revoking of privileges. 7

OR

12. Write a short note on **any three**.
a) Statistical Database security. 4
b) Flow control mechanism. 4
c) Implicit and explicit locking. 5
d) Types and level of locks. 4
e) Access control policies. 4
