

Punjab Technical University
Master of Computer Application Examination

MCA 3rd Semester DISTRIBUTED DATABASE DESIGN 2006

Time: Three hours Maximum: 100 marks

PART A Answer ALL questions. (8 X 5 = 40 marks)

1. (a) Discuss the network model of database system with example. Or
(b) Define database system. List the advantages of it.
2. (a) Explain why distributed databases are essential. Or
(b) Compare Distributed Databases with centralized databases.
3. (a) Explain with example the distribution transparency for read only applications. Or
(b) Discuss the distribution transparency for UPDATE applications with example.
4. (a) What are the rules. laid for define fragments? Or
(b) What do you mean by distributed database access primitives? Explain.
5. (a) Explain the equivalence transformation J queens Or
(b) Explain the process of using semi-jo programs for join queries with suitable examples.
6. (a) Explain the two-phase commitment protocol Or
(b) What are the properties of transaction? Explain them in brief.
7. (a) Explain the architecture of SDD - 1 in detail Or
(b) Discuss the conflict graph analysis.
8. (a) Write short notes on execute phase I Or
(b) What are the functions of transaction control layer in telnet? .

PART B Answer ALL questions. (5 x 12 = 60 marks)

9. (a) Describe the following with example:
(i) Hierarchical model (ii) Relational model. Or
(b) Explain the different operations allowed on relational algebra with suitable examples.
10. (a) Explain the concept of distributed database management system in detail.
(b) Or Discuss the following: (i) Overview of DDB
(ii) Global optimization (iii) Local optimization.
11. (a) What are the types of fragmentation? Explain them with examples. Or
(b) Describe in detail the architectures of DDB with objectives.
12. (a) Discuss the different procedure in the process of transforming global queries into fragment

queries with example. Or

(b) Write about the profiles of the result of any four algebraic operations with example.

13. (a) Discuss the following ways of implementing a distributed transaction using the CICS IICS facility.

(i) Function Shipping (ii) Asynchronous transaction processing. Or

(b) Describe the global time layer of Telnet in detail.