

Exam. Code : 206702

Subject Code : 5238

M.Sc. Computer Science 2nd Semester
DISTRIBUTED DATABASE SYSTEMS
Paper-MCS-205

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt any **FIVE** questions. All questions carry equal marks.

1. Define distributed database system. What are the problems in distributed database system ? Tabulate the differences in distributed database and centralized database. 20
2. (a) What is fragmentation. What are various methods of fragmentation ? Discuss in detail. 10
(b) What are different types of schemes ? Explain with suitable examples. 10
3. What is a query ? How a database operation can be represented in form of a query ? What are various operations which can be performed in a query ? Discuss with suitable examples. 20
4. Elaborate the process of query optimization. 20
5. Define transaction. What are the termination conditions for a transaction ? What are various goals of transaction management ? Discuss in detail with suitable examples. 20

6. (a) Two-phase locking increases concurrency in transaction execution relative to static locking. However what problems are associated with the two phase locking? 10
- (b) What are various integrity constraints? Discuss briefly. 10
7. What do you mean by deadlock? Discuss in detail various control organizations for distributed deadlock detection. 20
8. Discuss the following in detail :
- (a) Distributed database administration 10
- (b) Authorization and protection in distributed database. 10