

Exam. Code : 206702

Subject Code : 4623

M.Sc. (Computer Science) Semester—II

MCS-205 : DISTRIBUTED DATABASE SYSTEMS

Time Allowed—3 Hours]

[Maximum Marks—100

Note :— There are **EIGHT** questions. Attempt any **FIVE**. Each question carries equal marks. Student can use only non-programmable and non-storage type calculator.

1. (a) What is DDBMS ?
(b) Which are different types of Schemas ?
2. (a) How a global query is converted into fragmented query ?
(b) Give examples of aggregate functions and parametric queries.
3. (a) Explain hybrid fragmentation with the help of an example.
(b) Which are various reasons of fragmentation ? Are there any alternatives to fragmentation ?
4. (a) Which are various integrity constraints ?
(b) Which are different properties and goals of transaction management ?
5. Discuss the process of query optimization.

6. Explain following with reference to distributed databases :
(a) 3-phase locking and commitment protocol
(b) Deadlock detection.
7. Explain following with reference to distributed databases :
(a) Distributed database administration
(b) Authorization and protection in distributed databases.
8. (a) Various applications of distributed databases.
(b) Reduction of relation using join and semi-join operations.