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.