Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 08

M.Tech. (CSE Engg) (2018 Batch E-I) (Sem.–1)

DISTRIBUTED SYSTEMS

Subject Code : MTCS-109-18

M.Code : 75159

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWELVE marks.**

1. a) What is Distributed data processing? Describe the architecture of distributed database management system along with detailed description of its major components.

   b) How transparency becomes essential when the database is distributed? Also, mention the global directory issues.

2. a) What is the concept of semantic data control? Briefly discuss about semantic integrity control and its importance.

   b) Take an example query and explain step by step working of any query optimization algorithm.

3. a) What is the objective of query processing? How is characterization of query processors done? Discuss its major issues.

   b) In the context of query processing, elaborate the process of query decomposition and localization of distributed data.

4. a) Discuss the concept of centralized query optimization and ordering of fragment queries with respect to distributed query optimization.

   b) Explain the distributed database design and related issues. How is fragmentation handled for distributed databases?

5. a) How is recovery important for distributed transactions? Discuss any one technique.

   b) Briefly discuss the types of failures in distributed database systems.

6. Elaborate the following in the context of concurrency control :

   a) Deadlock Management

   b) Concurrency control in DDBS

7. a) Explain in detail the parallel architecture of parallel database systems. Take an example query and show optimization while processing parallel queries.

   b) Outline the major components of a mobile database along with their functionalities and features.

8. Write short notes on following :

   a) Distributed Object Management

   b) Recovery protocols

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.