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Total No. of Pages : 02

Total No. of Questions : 08

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

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.

Q1) a) Define Distributed data processing and DDBS. Draw and explain the major components of a distributed database management system architecture.

b) Discuss the issue of transparency and global directory services with respect to distributed databases.

Q2) a) Define view management and semantic data control. Briefly discuss semantic integrity control and its importance.

b) Explain step by step working of any query optimization algorithm by taking an appropriate query example.

Q3) a) Discuss the layers of query processing. In the context, elaborate the concept of query decomposition and its localization of distributed data.

b) Briefly describe the objectives and characterization of query processors.

Q4) a) Elaborate the concept of deadlock management and concurrency control in DDBS in the context of concurrency control with example,

b) Describe the characteristics of a distributed database design. Also, discuss data allocation and fragmentation issue for distributed databases?

Q5) a) How do we measure reliability for distributed transactions? Discuss any one technique.

b) Discuss various types of failures and one recovery protocol for distributed transactions.

Q6) Describe the following with reference to Distributed query optimization:

- a) Centralized query optimization
- b) Ordering of fragment queries

Q7) a) Discuss the concept of parallel database systems and explain its architecture. Also, show query optimization while processing parallel queries.

b) How does parallel query processing ensures load balancing? Give detailed explanation.

Q8) Write short notes on following :

- a) Mobile databases
- b) Commit protocols

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