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B.TECH.

THEORY EXAMINATION (SEM-VI) 2016-17

DISTRIBUTED DATABASE

Time : 3 Hours

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION – A

1. Explain the following:

- (a) What is a cascade less schedules?
- (b) State serializability. How it is tested?
- (c) Differentiate strict two phase locking protocol and rigorous two phase locking protocol.
- (d) What are the timestamps associated with each data item?
- (e) Define replication.
- (f) What is Fragmentation? Give its types.
- (g) Provide the Concepts in Orphan in distributed database.
- (h) How database recovery can be done?
- (i) What the difference is between distributed and replicated database?
- (j) Define Distributed Deadlock detection.

SECTION – B

2. Attempt any five of the following questions:

- (a) Compare conflict and view serializability with example.
- (b) Explain timestamp based concurrency algorithms in detail.
- (c) State the purpose of 2PC protocol. Explain 2PC in detail.
- (d) Explain the need for the two-phase commit protocol. Then describe the two phases.
- (e) Illustrate the cost based query optimization for Distributed Database in detail.
- (f) Mention about Recovery in Message Passing System. Explain concept of inconsistent states.
- (g) What are Multiversion Schemes? Explain its importance in Multiversion Protocol.
- (h) Describe query optimization algorithms.

SECTION – C

Attempt any two parts of the following questions:

- 3 Explain how the transactions are managed in a distributed database. Also differentiate between Homogeneous and Heterogeneous Database.
- 4 Brief about Traditional recovery techniques with example.
- 5 What are the objects of distributed query processing? Explain.

Max. Marks : 100

 $10 \ge 2 = 20$

 $5 \ge 10 = 50$

 $2 \ge 15 = 30$