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(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2148 Roll No. 0 9 0 9 6 1 4 0 1 D

M.C.A.

(SEM. V) THEORY EXAMINATION 2011-12

ADVANCE DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours *Total Marks : 100*

Note :- (1) Answer **all** questions.

(2) All questions carry equal marks.

1. Attempt any **four** parts of the following : **(5×4=20)**

(a) Discuss the advantages and disadvantages of the following :

(i) Relational database

(ii) Centralized database.

(b) Describe the various challenges faced during the design of a distributed database.

(c) What is the difference between concurrent execution and parallel execution of transaction ?

(d) Define conflict and view serializability.

(e) Write down difference between recoverable and cascadeless schedules.

(f) Define transaction and schedules with some example.

2. Attempt any **two** parts of the following : **(10×2=20)**

(a) What are protocols ? Explain lock based and time stamp based concurrency protocol with suitable example.

(b) Define the architecture for locking scheduler with diagram. Also define the locking system with multiple lock modes.

(c) What do you understand by multiple granularity ? Explain with example. Also discuss its significance in database.

3. Attempt any **two** parts of the following : **(10×2=20)**

(a) (i) Define a distributed transaction with suitable example :

(ii) Discuss the significance of data distribution with some example.

(b) What do you understand by data fragmentation and data replication ? Discuss with suitable example.

(c) Write short notes on the following :

(i) Distributed Locking scheme

(ii) Moss Concurrency Protocols.

4. Attempt any **two** parts of the following : **(10×2=20)**

(a) Write short notes on the following :

(i) Log based recovery

(ii) Atomicity in distributed databases.

(b) (i) What are checkpoints ? Discuss the significance of checkpoints with example.

(ii) Write short note on recovery line algorithm.

(c) Write short notes on the following :

(i) Orphan and Inconsistent messages

(ii) Recovery in Message passing system.

5. Attempt any **two** parts of the following : **(10×2=20)**

(a) Define Distributed Query Processing. What do you mean by Query and Sub Query ? Explain with suitable example.

(b) (i) What are joins ? Explain different type of joins with example.

(ii) What is cost based query optimization ?

(c) Write short notes on the following :

(i) Lazy Replication Technique

(ii) Distributed Deadlock Detection.