



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

PAPER ID : 214562

Roll No.

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M. C. A.

(SEM. V) (ODD SEM.) THEORY
EXAMINATION, 2014-15

ADVANCE DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours]

[Total Marks : 100

1 Attempt any four parts : 5×4=20

- (a) Differentiate between the homogeneous and heterogeneous distributed database management system.
- (b) Explain the phantom phenomenon with an example.
- (c) Define the concepts of recoverable, cascade-less schedules.
- (d) How fault, failure and recovery are related?
- (e) Describe various properties of transaction.

2 Attempt any two parts : 10×2=20

- (a) What is deadlock? How distributed deadlocks are handled in DDBMS?

(b) Explain the following :

- (i) Orphan and inconsistent messages
 - (ii) In-place updating and shadow updating.
- (c) What is multiple granularity protocol of concurrency control? Also discuss its advantages and disadvantages.

3 Attempt any two parts : 10×2=20

- (a) What is the purpose of fragmentation in distributed database? Describe the various types of fragmentation methods.
- (b) State and explain the 3PC (three phase commit) protocol of DDBMS along with state diagram.
- (c) Explain the following terms :
 - (i) Check point and its significance
 - (ii) Full replication, partial replication.

4 Attempt any two parts : 10×2=20

- (a) Compare the join approach with semi join approach. Show how the semi join operation can be used to decrease the total cost of join queries.
- (b) Describe the following in brief :
 - (i) State diagram of 2PC
 - (ii) Eager replication technique.
- (c) What do you mean by a lock scheduler? Explain the process of obtaining the lock. Explain the lock table.

5 Attempt any two parts :

10×2=20

- (a) Describe query optimization in distributed database. How is it different from query optimization in a standalone database?
- (b) Describe cost estimation of query in distributed database. How does replication in a distributed database effects update query?
- (c) List and explain all criterions for transforming global query to fragment query.