Printed Pages : 3

ECS-076

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

PAPER ID : 110756

Roll No.

B. Tech.

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

DISTRIBUTED DATABASE

Time : 3 Hours] [Total Marks : 100

Note : Attempt Questions from each section as per direction.

1 Attempt any FOUR of the following : 4×5=20

(A) Compare and contrast the differences between Distributed Database and Centralized Database.

(B) What is Transaction? Also explain the States of Transaction?

(C) Explain Conflict and View Serializability with ex.mple.

(D) What do you mean by Cascading Rollback? Also discuss Recoverable Schedule.

(E) Discuss the techniques used for Testing of Serializability.

(F) What is Schedules? Check whether a given schedule is a Conflict or not. Also find its equivalent Serial Schedule.

(i) r1(X) ; r3(X) ; w1(X) ; r2(X) ; w3(X)

(ii) r1(X) ; r3(X) ; w3(X) ; w1(X) ; r2(X)

2 Attempt ANY Four of the following : **4×5=20**

(A) What are Locks? Explain the working of Two Phase Locking Protocol in brief.

(B) Differentiate between Strict Two-Phase and Rigorous Two-Phase Locking Protocol.

(C) Define Granularity of a Lock. Distinguish between Fine Granularity and Coarse Granularity.

(D) Describe the Architecture for Locking Scheduler in brief.

(E) Explain the Working of Time Stamp Based Protocols in detail.

(F) What are Multiversion Schemes? Explain its importance in Multiversion Protocol.

3 Attempt any TWO questions : **2×10=20**

(A) Explain how the transactions are managed in a distributed database. Also differentiate between Homogeneous and Heterogeneous Database.

(B) Describe 2-Phase Commit Protocol. What are the demerits of this protocol? How 2PC is different from 3PC?

(C) Explain the various Distributed Locking Techniques for Concurrency Control in detail.

4 Attempt any TWO questions : **2×10=20**

(A) Explain Issues of Recovery in Distributed Database. Also explain the types of failure in Distributed Database.

(B) Explain how recovery is done in message passing systems? Also explain the concept of Orphan and Inconsistent messages.

(C) Explain the various traditional recovery mechanisms from Concurrent Transaction.

5 Attempt any TWO questions : **2×10=20**

(A) Define Distributed Deadlock detection. Also explain the Edge-Chasing Algorithm for distributed Deadlock detection.

(B) Discuss the Objectives of Distributed Query Processing. Also explain the basic steps of Query Processing in details.

(C) Explain the Cost Based Query Optimization for Distributed Database in detail.