Paper Code: CS-067

Roll No. | | | | | | | | | | |

B.Tech.
(SEM VI) EVEN SEMESTER EXAMINATION, 2015-16
DISTRIBUTED DATABASE

[TIME: 2 hrs.] **[Max. Marks: 50]**

Note-Attempt All questions .All questions carry equal marks.

1. Attempt any two parts of the following:- **[7x2=14]**

(a) What is schedule? Allowing multiple transactions to update data concurrently causes several complications with consistency of the data. In spite of having such problems, why concurrent execution is preferable?

(b) What is serializability? State and explain recoverable schedules, cascadeless schedules and cascading roll rollback with example.

(c) (i) S1= R1(x), W2(x), W1(x), W3(x)
Check whether the given schedule is view serializable or not.
(ii) Check whether given schedules are conflict serializable or not with the help of precedence graph:
A. R1(x), R2(z), R1(z), R3(x), R3(y), W3(x), R2(y), W2(z), W2(y), W3(z), R1(y)
B. R1(x), R3(x), W2(x), R2(x), W3(x), W1(x), R2(x)

2. Attempt any two parts of the following:- **[6x2=12]**

(a) Write short note on the following terms:
(i) Time stamp based protocol
(ii) Multiple granularity

(b) Explain architecture for locking scheduler with a suitable diagram.

(c) Write short notes on:
(i) Eager Replication techniques
(ii) Lazy Replication Techniques

3. Attempt any two parts of the following:- **[6x2=12]**

(a) What do you understand by distributed system and what are the reasons of building distributed database system? Give an example of a distributed system that distinguishes between local and global transaction.

(b) How 2PC protocol responds various types of failure? Explain.

(c) How primary copy locking is different from centralized lock system? What is the meaning of 2x>n and s+x> n in distributed locking?

4. Attempt any two parts of the following: - **[6x2=12]**

(a) What are the problems associated with log based recovery and how checkpoints resolve these problems?

(b) Explain how recovery is done in message passing system?

(c) What do you understand by locking system with several lock modes? List all kind of locks.