Computer Science and Engineering

National Institute of Technology, Hamirpur

End Semester Examination

Subject: CS-623
Advances in DBMS

Class: DD(CSE) 8th Sem
Maximum Marks: 50
Time: 3 hours

Note: -
Attempt all questions. All questions are of 10 marks.

1 Briefly explain the following: -

   (A)   Tree-based protocol for concurrency control.

   (B)   Lock Manager.

2   (A)   What are the different types of distributed databases. Briefly explain distributed data storage and data replication.

   (B)   What is data fragmentation? What are the advantages of data fragmentation?

3   (A)   What are the different levels of abstractions in DBMS?

   (B)   What is stable storage? Explain how stable storage can be implemented?

4   (A)   What will be recovery actions in each case (as shown in log record) for Immediate DB Modification Recovery.

(a)	(b)	(c)
$<T_0$ start$>$	$<T_0$ start$>$	$<T_0$ start$>$
$<T_0, A, 1000, 950>$	$<T_0, A, 1000, 950>$	$<T_0, A, 1000, 950>$
$<T_0, B, 2000, 2050>$	$<T_0, B, 2000, 2050>$	$<T_0, B, 2000, 2050>$
	$<T_0$ commit$>$	$<T_0$ commit$>$
	$<T_1$ start$>$	$<T_1$ start$>$
	$<T_1, C, 700, 600>$	$<T_1, C, 700, 600>$
		$<T_1$ commit$>$

   (B)   What is dead lock prevention? Explain **wait-die** and **wound-wait** scheme for deadlock prevention?

5   What are the different types of Intention Lock Modes? Explain Multiple Granularity Locking Scheme?