

National University of Computer and Emerging Sciences, Lahore Campus



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| Course: | Advance Database Concepts | Course Code: | CS451 |
| Program: | BS(Computer Science) | Semester: | Spring 2018 |
| Date: | 6-Feb-2018 | Total Marks: | 10 |
| Quiz | 1 (Transactions) | Weight: | |
| Section | CS | Max. Time: | 10 Minutes |

Q1: Determine which of the schedules are recoverable, which are cascade less, and which are strict. Marks: 6

(Hint: Cascade less is also recoverable.)

T 1 : r 1 (X); w 1 (X); r 1 (Y); w 1 (Y); C 1 ;

T 2 : r 2 (X); w 2 (X); C 2 ;

S 1 : r 1 (X); r 2 (X); w 1 (X); r 1 (Y); w 1 (Y); C 1 ; w 2 (X); C 2 ;

S 2 : r 1 (X); w 1 (X); r 1 (Y); w 1 (Y); r 2 (X); C 1 ; w 2 (X); C 2 ;

S 3 : r 1 (X); r 2 (X); w 1 (X); r 1 (Y); w 1 (Y); w 2 (X); C 1 ; C 2 ;

Q2: Consider the following schedule of four transactions T1, T2, T3, and T4.

Marks: 4

S: r1(A);r4(A);w1(A);w3(B);r2(A);r2(B);w2(C);r4(B);r4(C);r2(D);r3(E).

- Draw the serializability (precedence) graph for this schedule
- State whether this schedule is (conflict) serializable or not. If the schedule is serializable, write down the equivalent serial schedule(s) otherwise explain why it is not.