National University of Computer and Emerging Sciences, Lahore Campus

Course:	**Advance Database Systems**	**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 Minute**

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

(Hint: Cascade less is also recoverable.)

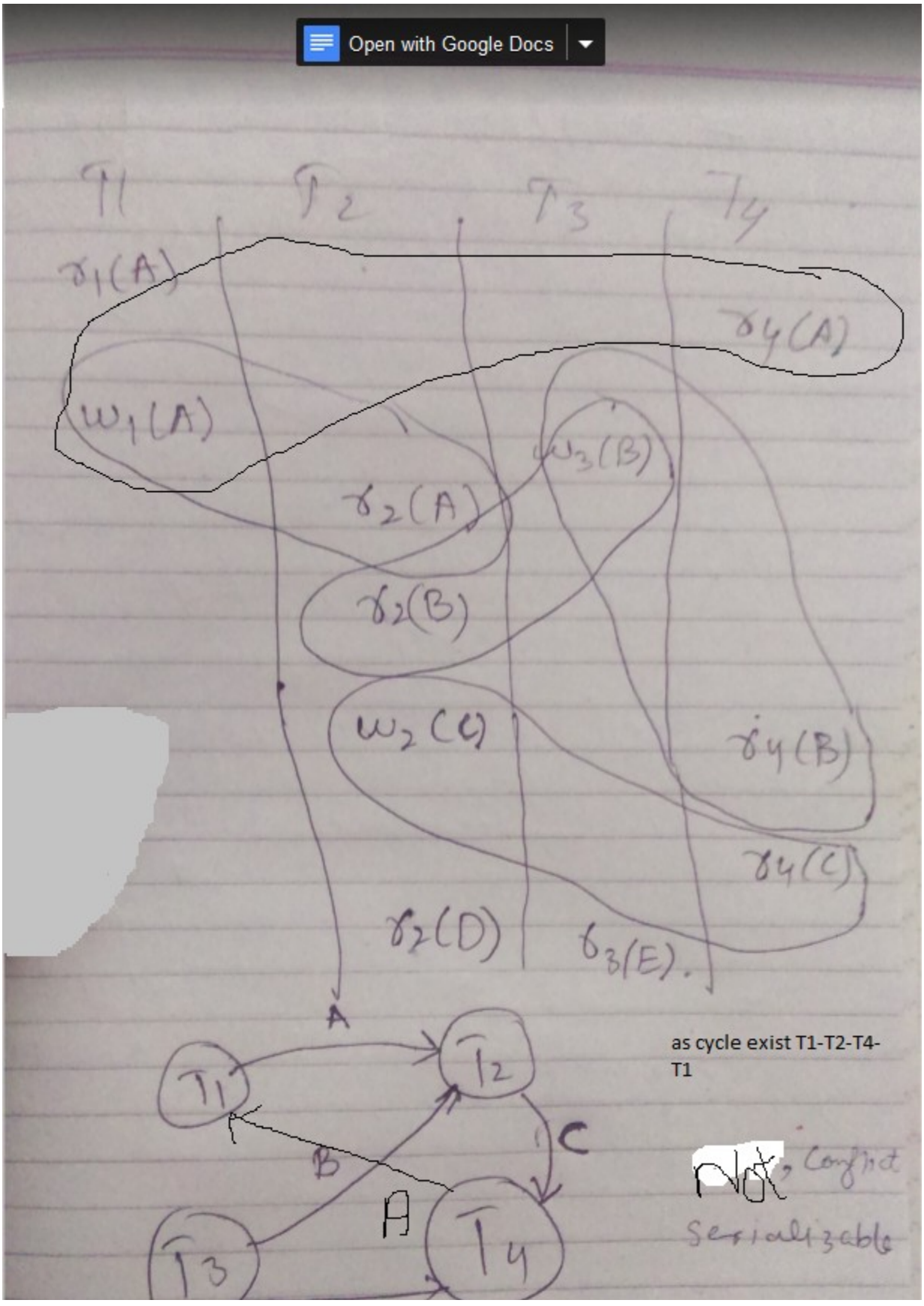
T 1 : r 1 (X); w 1 (X); r 1 (Y); w 1 (Y); C 1 ;
T 2 : r 2 (X); w 2 (X); C 2 ;

S 1 : r 1 (X); r 2 (X); w 1 (X); r 1 (Y); w 1 (Y); C 1 ; w 2 (X); C 2 ; **Strict**
S 2 : r 1 (X); w 1 (X); r 1 (Y); w 1 (Y); r 2 (X); C 1 ; w 2 (X); C 2 ; **Recoverable**
S 3 : r 1 (X); r 2 (X); w 1 (X); r 1 (Y); w 1 (Y); w 2 (X); C 1 ; C 2 ; **Cascadeless**

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).

a) Draw the serializability (precedence) graph for this schedule
b) 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.



as cycle exist T1-T2-T4-T1

not, Conflict Serializable