Name: _____ ID: _____ Section: L2/L3

Instructions: Answer these questions as clearly as possible.

Q. 1: [3 marks] Explain (using an example) what is the lost update problem?

Q. 2: [2 marks] Match the following properties with their respective descriptions:

Property	Description
Atomicity	After a transaction is committed the changes made to the state of the database are permanent.
Consistency	Each transaction executes as a single, indivisible unit.
Isolation	Each transaction executes independent of the effect of other transactions.
Durability	Any data written to the database must be valid according to all defined rules, including constraints.

Q. 3: [5 marks] Consider the following schedule. Construct the precedence graph and use topological order sorting to if the schedule is conflict serializable or not. If yes, state an order of transactions.

T1	**T2**	**T3**
read(*X*)		
	write(*X*)	
read(*Y*)		
		read(*X*)
		write(*Y*)
	read(*X*)	