



United International University

Department of Computer Science and Engineering

CSI 221 – Database Management Systems, In-class Assignment 4, Spring 2021

Total Marks: 20, Time: 30 minutes

Answer all the questions

1. Consider the following database schedule where 6 transactions are operating concurrently:

T ₁	T ₂	T ₃	T ₄	T ₅
Read(A)				
	Write(B)			
			Write(C)	
Write(A)				
				Read(A)
	Read(C)			
		Write(D)		
		Read(B)		
				Read(C)
	Read(A)			
			Read(A)	
				Read(B)

- a) Draw the precedence graph from this given schedule. [6]
- b) Is the schedule serializable? If yes then show an equivalent serial schedule with necessary simulation steps. [6]
2. a) Consider the following Relation R and set of Functional dependencies F : [4+4]
- $R = (A, B, C, D, E)$
- $F = \{A \rightarrow C, B \rightarrow D, AC \rightarrow D, CD \rightarrow E, E \rightarrow A\}$

Now compute attribute closure for E and BC .