Assignment –3
(Based on Unit IV)
MCA-III Semester

Course Code: MCA 107	Course Name: Database Management Systems

1. Test the serializability of the schedule with a precedence graph.   CO5   BTL6

2. For the following set of transactions T1, T2, and T3, apply the timestamp ordering   CO5   BTL6

   algorithm for the given schedule:

Transaction T1	Transaction T2	Transaction T3
	Read Z	
	Read Y	
	Write Y	
		Read Y
		Read Z
Read X		
Write X		
		Write Y
		Write Z
	Read X	
Read Y		
Write Y		
	Write X	

Also, determine whether the above-given schedule is conflict serializable.

3. Consider the following schedule: CO5   BTL5

T1	T2	T3
	R(A)	
	R(B)	
W(A)		
	W(C)	
R(C)		
		W(C)
W(B)		
	W(B)	
		W(B)

Write the sequence of valid views a serializable schedule. Justify the answer as well.

4. Elaborate Locking protocol system with secured and exclusive locks.   CO5   BTL6

5. Discuss Two-Phase Locking System. Why it is needed in concurrency control CO5   BTL6
   schemes.

6. Explain the concept of log-based recovery in transactions.   CO5   BTL6

7. Database Security is the process of transforming data into an unreadable form for CO5   BTL6
   anyone who does not know the key. Justify this statement.

8. Discuss the properties of object-oriented database management systems.   CO5   BTL6