

Class Continuous Assessment Component with Rubric

Course Name: Database Management Systems Course Code: CET2002B

A.Y. 2022-23 S.Y.B.Tech Semester IV

Name of Component: Theory Assignment (Marks:05)

Q. No.	Question	Marks	Mapped CO	Bloom's Level																										
Roll No. : 1-15																														
Q1.	What is the two-phase locking protocol? How does it guarantee serializability?	03	IV	2																										
Q2.	<div>Check whether the given schedule S is view serializable or not-</div> <div><table><tr><th>T1</th><th>T2</th></tr><tr><td>R (A)</td><td></td></tr><tr><td>A = A + 10</td><td></td></tr><tr><td></td><td>R (A)</td></tr><tr><td></td><td>A = A + 10</td></tr><tr><td>W (A)</td><td></td></tr><tr><td></td><td>W (A)</td></tr><tr><td>R (B)</td><td></td></tr><tr><td>B = B + 20</td><td></td></tr><tr><td></td><td>R (B)</td></tr><tr><td></td><td>B = B x 1.1</td></tr><tr><td>W (B)</td><td></td></tr><tr><td></td><td>W (B)</td></tr></table></div>	T1	T2	R (A)		A = A + 10			R (A)		A = A + 10	W (A)			W (A)	R (B)		B = B + 20			R (B)		B = B x 1.1	W (B)			W (B)	02	IV	4
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Roll No. : 16-30																														
Q1.	What are the problems of lock based protocol in DBMS?	03	IV	2																										
Q2.	Give an example of a serializable schedule with two transactions such that the order in which the transactions commit is different from the serialization order.	02	IV	4																										

Roll No. : 31-45																																																				
Q1.	What are some variations of the two-phase locking protocol? Why is strict or rigorous two-phase locking often preferred?	03	IV	2																																																
Q2.	Check whether the given schedule S is conflict serializable and recoverable or not. <div><table><tr><td>T1</td><td>T2</td><td>T3</td><td>T4</td></tr><tr><td></td><td>R(X)</td><td></td><td></td></tr><tr><td></td><td></td><td>W(X)</td><td></td></tr><tr><td></td><td></td><td>Commit</td><td></td></tr><tr><td>W(X)</td><td></td><td></td><td></td></tr><tr><td>Commit</td><td></td><td></td><td></td></tr><tr><td></td><td>W(Y)</td><td></td><td></td></tr><tr><td></td><td>R(Z)</td><td></td><td></td></tr><tr><td></td><td>Commit</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>R(X)</td></tr><tr><td></td><td></td><td></td><td>R(Y)</td></tr><tr><td></td><td></td><td></td><td>Commit</td></tr></table></div>	T1	T2	T3	T4		R(X)					W(X)				Commit		W(X)				Commit					W(Y)				R(Z)				Commit						R(X)				R(Y)				Commit	02	IV	4
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Roll No. : 46-60																																																				
Q1.	Discuss the problems of deadlock and starvation, and the different approaches to dealing with these problems.	03	IV	2																																																
Q2.	Check whether the given schedule S is conflict serializable or not. If yes, then determine all the possible serialized schedules. <div><table><tr><td>T1</td><td>T2</td><td>T3</td><td>T4</td></tr><tr><td></td><td></td><td></td><td>R(A)</td></tr><tr><td></td><td>R(A)</td><td></td><td></td></tr><tr><td></td><td></td><td>R(A)</td><td></td></tr><tr><td>W(B)</td><td></td><td></td><td></td></tr><tr><td></td><td>W(A)</td><td></td><td></td></tr><tr><td></td><td></td><td>R(B)</td><td></td></tr><tr><td></td><td>W(B)</td><td></td><td></td></tr></table></div>	T1	T2	T3	T4				R(A)		R(A)					R(A)		W(B)					W(A)					R(B)			W(B)			02	IV	4																
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Roll No. : 61-75																																																				
Q1.	What is a lock? Explain the major difference between a shared lock and an exclusive lock during a transaction in a database.	03	IV	2																																																

Q2.	Determine all the possible serialized schedules for the given schedule: <div><table><tr><th>T1</th><th>T2</th></tr><tr><td>R(A) A = A-10 W(A) R(B) B = B+10 W(B)</td><td>R(A) Temp = 0.2 x A W(A) R(B) B = B+Temp W(B)</td></tr></table></div>	T1	T2	R(A) A = A-10 W(A) R(B) B = B+10 W(B)	R(A) Temp = 0.2 x A W(A) R(B) B = B+Temp W(B)	02	IV	4								
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Roll No. : 76-90																
Q1	Database-system implementers have paid much more attention to the ACID properties than have file-system implementers. Why might this be the case?	03	IV	2												
Q2	Check whether the given schedule S is view serializable or not: <div><table><tr><th>T1</th><th>T2</th><th>T3</th><th>T4</th></tr><tr><td>R (A)</td><td>R (A)</td><td>R (A)</td><td>R (A)</td></tr><tr><td>W (B)</td><td>W (B)</td><td>W (B)</td><td>W (B)</td></tr></table></div>	T1	T2	T3	T4	R (A)	R (A)	R (A)	R (A)	W (B)	W (B)	W (B)	W (B)	02	IV	4
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R (A)	R (A)	R (A)	R (A)													
W (B)	W (B)	W (B)	W (B)													
Roll No. : 91-101																
Q1	What is a checkpoint in DBMS and when does it occur? Give an example.	03	IV	2												

Q2	<p>Check whether the given schedule S is view serializable or not:</p> <table><thead><tr><th>T1</th><th>T2</th><th>T3</th></tr></thead><tbody><tr><td>R (A)</td><td></td><td></td></tr><tr><td></td><td>R (A)</td><td></td></tr><tr><td>W (A)</td><td></td><td>W (A)</td></tr></tbody></table>	T1	T2	T3	R (A)				R (A)		W (A)		W (A)	02	IV	4
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W (A)		W (A)														

Date of Assignment: 21st April 2023

Date of Submission: 2nd May 2023

Name of Course Teacher: Dr. Sukhada Bhingarkar

Sign: