GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2018

Subject Code: 2170714   **Date: 06/12/2018**

Subject Name: Distributed DBMS

Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**

Instructions:
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			MARKS
Q.1	**(a)**	Explain data independence.	03
	(b)	Discuss problem areas in DDBMS environment.	04
	(c)	Explain Client Server architecture for Distributed DBMS.	07
Q.2	**(a)**	Explain Horizontal Fragmentation.	03
	(b)	Explain Top-Down Design Process for Distributed Database.	04
	(c)	Define Distributed Database System. What is transparency in DDBMS? Explain Layers of transparency in DDBMS.	07
		OR	
	(c)	State the need of Normalization in database management system. Write and explain any two normal forms with appropriate example.	07
Q.3	**(a)**	Explain Characterization of Query Processors.	03
	(b)	Explain Join Ordering for Query optimization.	04
	(c)	What is authorization control? How to imply authorization control in centralized and distributed environment.	07
		OR	
Q.3	**(a)**	Explain Cost Function of Query Optimization.	03
	(b)	Explain layers of Query processing.	04
	(c)	What do you mean by distributed semantic integrity control? Explain with example.	07
Q.4	**(a)**	Explain ACID Property of Transaction.	03
	(b)	Explain Conflict serializability.	04
	(c)	Explain Centralized 2PL for distributed DBMS environment.	07
		OR	
Q.4	**(a)**	Define Lock Granting.	03
	(b)	Explain Type of Transactions.	04
	(c)	Explain optimistic concurrency control algorithms.	07
Q.5	**(a)**	Write down step for backward error recovery.	03
	(b)	Define write- Ahead Logging Protocol.	04
	(c)	Write a Short note on: Shadow Paging.	07
		OR	
Q.5	**(a)**	Explain Transaction Failures in Distributed DBMS.	03
	(b)	Define Reliability and Availability.	04
	(c)	Discuss wait-die and wound–wait deadlock avoidance algorithm for distributed system.	07

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