Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER – II (New)– EXAMINATION – WINTER-2019

Subject Code: 3722321 **Date: 21-11-2019**

Subject Name: Distributed Databases

Time: 02:30 PM TO 05:00 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)**	Define Following Term : (1) Replication Transparency (2)Distributed Database System (3) Location Transparency (4) Data Independence	**04**
	(b)	List and briefly explain problem areas in DDBS environment.	**03**
	(c)	Explain Distributed Database design for multiplex booking system in India.	**07**
Q.2	**(a)**	Explain top-down design process in detail.	**07**
	(b)	Discuss attribute affinity matrix, CA matrix, BEA algorithm in the context of vertical fragmentation with example.	**07**
		OR	
	(b)	Consider a online market system, which give facility to purchase from any place by all account holder, discuss which transaction properties are to be consider and why?	**07**
Q.3	**(a)**	Explain simple predict, min term predict and COM_MIN algorithm in context of horizontal fragmentation.	**07**
	(b)	What do you mean by centralized semantic integrity control? Explain with example.	**07**
		OR	
Q.3	**(a)**	Discuss how you perform deadlock management in a distributed DBMS.	**07**
	(b)	Explain layers of query processing.	**07**
Q.4	**(a)**	Explain basic Time stamp based concurrency control algorithm.	**07**
	(b)	Explain MDBS architecture with and without GCS.	**07**
		OR	
Q.4	**(a)**	Explain distributed cost model with example.	**07**
	(b)	Explain Client/Server Architecture for DDB, with its merit and demerits.	**07**
Q.5	**(a)**	Explain centralized semantic integrity control with example.	**07**
	(b)	With an example explain workflow during transaction.	**07**
		OR	
Q.5	**(a)**	Explain “relaxed” concurrency control.	**07**
	(b)	Differentiate 1) Data warehousing Vs Distributed Database 2) Distributed Processing Vs Cooperative Processing	**07**