Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019

Subject Code: 2173208 **Date: 03/12/2019**

Subject Name: Distributed Computing

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)**	Enlist and explain design issues in distributed systems.	**03**
	(b)	Explain any two communication protocol of distributed computing.	**04**
	(c)	Enlist and explain distributed computing models with their advantages and disadvantages.	**07**
Q.2	**(a)**	Explain process addressing techniques.	**03**
	(b)	Compare and contrast blocking and non-blocking primitives of IPC.	**04**
	(c)	Explain what is message passing. Explain the message passing approaches in distributed computing.	**07**
		OR	
	(c)	Explain RPC either using diagram and theory or using echo client-server program.	**07**
Q.3	**(a)**	Explain any one mutual exclusion algorithm.	**03**
	(b)	Explain multi datagram messaging.	**04**
	(c)	Explain constructing a DFS spanning tree with and without a specified root.	**07**
		OR	
Q.3	**(a)**	Compare distributed computing and network computing.	**03**
	(b)	Explain fault tolerance ways in distributed computing.	**04**
	(c)	Explain RMI either using diagram and theory or using echo client-server program.	**07**
Q.4	**(a)**	Enlist and explain the problems with unsynchronized clocks.	**03**
	(b)	Explain need of Process migration. Enlist and explain the ways to do it.	**04**
	(c)	Explain logical clock in distributed computing using example.	**07**
		OR	
Q.4	**(a)**	Compare and contrast leader election in rings.	**03**
	(b)	Explain the terms global state and local state. Explain any algorithm of global state management.	**04**
	(c)	Enlist and explain how process management is implemented in distributed computing.	**07**
Q.5	**(a)**	Explain implementation issues of distributed shared memory.	**03**
	(b)	Explain resource management in distributed computing.	**04**

	(c)	Differentiate between deadlocks in distributed systems vs. centralized systems. Explain any deadlock handling algorithm in distributed computing.	**07**

OR

Q.5	**(a)**	Differentiate between mutual exclusion algorithms in centralized system vs. distributed computing.	**03**
	(b)	Explain thrashing in distributed computing. Enlist and explain the ways to deal with it.	**04**
	(c)	Explain object locating mechanisms. Enlist and explain issues in designing human oriented names.	**07**

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