

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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