Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2173208 **Date: 29/11/2018**

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)**	Differentiate tightly coupled and loosely coupled multiprocessor system.	**03**
	(b)	What is buffering? Explain different types of buffering in brief.	**04**
	(c)	Explain issues related to designing of distributed operating system.	**07**
Q.2	**(a)**	Compare blocking and non-blocking primitives of IPC.	**03**
	(b)	Network system protocols are unsuitable for distributed systems. Explain.	**04**
	(c)	What is non-idempotent routine? How such routine creates problem with message passing? Also explain its solution with example.	**07**
		OR	
	(c)	Enumerate the various issues in clock synchronization. Classify the clock synchronization algorithms and explain Berkeley algorithm with an example.	**07**
Q.3	**(a)**	Compare CBR and VBR traffics in ATM system	**03**
	(b)	Demonstrate the features of “Google” that covers the Distributed Operating System.	**04**
	(c)	What is ordered message delivery? Discus different types of message ordering.	**07**
		OR	
Q.3	**(a)**	List out desirable features of a good message-passing system. Explain any three.	**03**
	(b)	Explain the following call semantics: (1) At least once (2) Exactly once	**04**
	(c)	Explain the probe based distributed algorithm for deadlock detection.	**07**
Q.4	**(a)**	Explain the reasons for drift in the computer clocks	**03**
	(b)	Explain the Bully algorithm with example.	**04**
	(c)	Explain RPC implementation. Also explain various methods of generating stubs.	**07**
		OR	
Q.4	**(a)**	What is deadlock? Discuss the necessary and sufficient conditions for a deadlock to occur.	**03**
	(b)	Compare RPC and RMI with example.	**04**
	(c)	Enumerate the major differences between threads and processes. Discuss various thread models.	**07**
Q.5	**(a)**	Explains various categories of faults.	**03**
	(b)	Explain Thrashing and False sharing in Distributed shared memory.	**04**

	(c)	What are the issues related in designing human oriented names explain in brief.	**07**

OR

Q.5	**(a)**	What is name server?	**03**
	(b)	What are the fundamental issues in resource management in distributed system?	**04**
	(c)	Discuss on Design and Implementation issues of Distributed shared Memory	**07**

****