

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

- (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**

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