Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Sem-I Regular Examination January / February 2011

Subject code: 710103N Subject Name: Distributed Operating System

Date: 01/02/2011 Time: 02.30 pm – 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.**

Q.1	**(a)**	Answer the following questions.	
		1. What is Idem potency ?	**01**
		2. What is 0-reliable and 1-reliable in multicast?	**01**
		3. What is an Orphan call?	**01**
		4. What is a Stable storage?	**01**
		5. Give structure of a Packet in IEEE Token Ring.	**02**
		6. Why thrashing occurs? List methods to solve thrashing.	**02**
		7. Write in Brief: Delayed –Write.	**02**
		8. How CSMA/CD protocol works?	**02**
		9. List the design principles to increase performance of distributed operating systems	**02**
Q.2	**(a)**	Answer the following questions.	**04**
		1. Explain the features and functionalities of processor pool model.	
		2. Write a note on 3-message reliable IPC protocol.	**03**
	(b)	Explain all forms of Transparency parameter in distributed operating systems.	**07**
		OR	
	(b)	Explain Client-Server Binding in detail.	**07**
Q.3	**(a)**	What is a logical clock? Discuss its significance in distributed systems. How are they implemented in distributed systems?	**07**
	(b)	Discuss various Consistency Models in distributed shared memory.	**07**
		OR	
Q.3	**(a)**	Discuss various file sharing semantics in distributed file systems.	**07**
	(b)	1. Differentiate among R, RA, RRA protocols for RPCs with a suitable example.	**05**
		2. Write a note on Real Time distributed systems.	**02**
Q.4	**(a)**	Give main features of ATM technology. Discuss ATM protocol reference model layers.	**07**
	(b)	Discuss various Deadlock Detection Approaches in distributed systems.	**07**
		OR	
Q.4	**(a)**	Explain OSI Reference Model layers in detail.	**07**
	(b)	1. Explain message buffering strategy in Inter process Communication.	**04**
		2. Discuss various Thread Models.	**03**
Q.5	**(a)**	What is a Stub? How are stubs generated? Explain how the use of stubs helps in making an RPC mechanism transparent?	**07**
	(b)	1. Compare ‘Micro’ and ‘Monolithic’ kernel modes.	**04**
		2. Why do most RPC systems support call- by-value semantic for parameter passing?	**03**
		OR	
Q.5	**(a)**	1. Discuss desirable features of a good file systems.	**04**
		2. List the issues in design and implementation of Distributed Shared Memory.	**03**
	(b)	1. What is NRMB ? Discuss data locating strategies in NRMB.	**04**
		2. Compare User level threads with Kernal level threads.	**03**

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