Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME(CE-SE) - SEMESTER–I • EXAMINATION – WINTER 2014

Subject Code: Distributed Operating System **Date:12/01/ 2015**
Subject Name:2710213
Time: **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)**	List out issues in designing a distributed operating system and explain transparency in detail.	**07**
	(b)	What is callback RPC? Give an example of an application where this facility may be useful. What are the main issues involved in it? Describe a mechanism to handle each of these issues.	**07**
Q.2	**(a)**	The operations performed by the server are non-idempotent. Describe a mechanism for implementing exactly-once IPC semantics in this case.	**07**
	(b)	Draw the ATM protocol reference model and explain itôs ATM layer in detail.	**07**
		OR	
	(b)	Define óclock skewô. Explain Global averaging distributed algorithm for clock synchronization.	**07**
Q.3	**(a)**	Explain the probe based distributed algorithm for deadlock detection.	**07**
	(b)	Explain the following call semantics: (1) Last One (2) At least once (3) Exactly once	
		OR	
Q.3	**(a)**	Which are the different techniques to avoid deadlock in Distributed Operating System?	**07**
	(b)	Explain the following two consistency models: (1) Casual consistency model (2) Processor consistency model	**07**
Q.4	**(a)**	What is óThrashingô in a distributed shared memory system? What are the commonly used methods to solve the thrashing in DSM system?	**07**
	(b)	Explain the issues in designing load-sharing algorithms.	**07**
		OR	
Q.4	**(a)**	Explain data locating techniques in RMBs strategy with block table in sequential consistency model.	**07**
	(b)	List out issues in designing a thread package and explain Threads Scheduling in detail.	**07**
Q.5	**(a)**	Explain the address space transfer mechanism for process migration in brief.	**07**
	(b)	What is multiple copy update problem in distributed file system? Explain the commonly used approaches to handle this issue.	**07**
		OR	

Q.5	**(a)**	Explain the file caching schemes in distributed file systems.	**07**
	(b)	Write the comparison between Amoeba, Mach and Chorus distributed operating systems.	**07**

****