Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 2710213 **Date: 04/01/2016**

Subject Name: Distributed Operating System

Time:2:30 pm to 5:00 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)**	What are the goals of building a distributed system? Describe performance of a Distributed System.	**07**
	(b)	Briefly discuss the important issues involved in design and implementation of Distributed Shared Memory.	**07**
Q.2	**(a)**	Explain Blocking vs. Non-blocking and Reliable vs. Unreliable primitives in Client – Server model.	**07**
	(b)	Briefly explain various problems that occur as a result of failure in Distributed System and the resolution of these problems.	**07**
		OR	
	(b)	What are the differences between remote procedure call and local procedure call? Explain light weight RPC in detail.	**07**
Q.3	**(a)**	Explain mutual exclusion in centralized approach and decentralized approach.	**07**
	(b)	Explain the following two consistency models: (1) Sequential consistency model (2) Weak consistency model	**07**
		OR	
Q.3	**(a)**	Explain fully distributed approach for deadlock detection with WFG-based distributed algorithm.	**07**
	(b)	Explain Replacement Strategy in DSM systems.	**07**
Q.4	**(a)**	What are the various issues in designing Load – Balancing Algorithms? Explain any two issues in detail.	**07**
	(b)	Explain the address space transfer mechanism for process migration in brief.	**07**
		OR	
Q.4	**(a)**	Explain various models for organizing Threads and motivations for using Threads.	**07**
	(b)	Briefly describe DCE Thread Management and Thread Synchronization.	**07**
Q.5	**(a)**	Explain various types of File Sharing Semantics.	**07**
	(b)	Explain fault Tolerance in Distributed File Systems.	**07**
		OR	
Q.5	**(a)**	What is the difference between File Replication and File Caching? What are the potential benefits of File Replication?	**07**
	(b)	Explain Process Management in MACH Distributed Operating System.	**07**

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