Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII EXAMINATION – SUMMER 2016

Subject Code:180701 Date:10/05/2016

Subject Name:Distributed Systems

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.**

Q.1	**(a)**	List out the methods of Object Locating Mechanism. Explain any Three object locating mechanism.	**07**
	(b)	Discuss load estimation policy and Process transfer policy in load balancing algorithms.	**07**
Q.2	**(a)**	What is process addressing? Explain commonly used methods for process addressing.	**07**
	(b)	Define Global state. Explain Distributed snapshot algorithm.	**07**
		OR	
	(b)	Enumerate various issues in clock synchronization. Classify the clock synchronization algorithm and explain Berkley algorithm with an example.	**07**
Q.3	**(a)**	Explain RPC Architecture. What is the role of IDL file in RPC?	**07**
	(b)	Explain the functionality of each layer in OSI layer architecture with various protocols used in each layer.	**07**
		OR	
Q.3	**(a)**	What is the significance of client-server binding? How are various issues handled in changing client-server binding?	**07**
	(b)	How does VMTP protocol handle lost messages, flow control, group Communication and maintain transparency.	**07**
Q.4	**(a)**	Differentiate monolithic kernel model and micro kernel model.	**07**
	(b)	Define Thrashing in DSM. Explain methods for solving thrashing in DSM.	**07**
		OR	
Q.4	**(a)**	How the problem is specified using formal model? Specify the problem of mutual exclusion using formal model specification.	**07**
	(b)	List and explain various consistency models used in DSM.	**07**
Q.5	**(a)**	What are threads? What are the different ways of synchronizing threads? Also explain various thread models.	**07**
	(b)	Explain features and issues in message passing system.	**07**
		OR	
Q.5	**(a)**	What is process migration? Explain address transport mechanism with freezing techniques.	**07**
	(b)	What is non-idempotent routine? How such routine creates problem with message passing? Also explain its solution with example.	**07**

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