Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII • EXAMINATION – SUMMER 2014

Subject Code: 180701 **Date: 05-06-2014**

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)**	i)	What is a distributed System? What are the advantages of it?	**03**
		iii)	Compare the distributed computing models.	**04**
	(b)	i)	What is logical clock? What is its significance in a distributed system?	**03**
		ii)	What is process migration? What are the main steps involved in process migration?	**04**
Q.2	**(a)**	i)	What are threads? Differentiate between threads and processes.	**03**
		ii)	What is dead lock? List four necessary and sufficient conditions for a deadlock to occur.	**04**
	(b)		Discuss the desirable features of a good message-passing system.	**07**
			OR	
	(b)		What is the significance of RMI in distributed systems? Explain the process of RMI execution	**07**
Q.3	**(a)**		What is ordered message delivery? Discus different types of message ordering.	**07**
	(b)		Why mutual exclusion is more complex in distributed systems? Categorize and compare mutual exclusion algorithms.	**07**
			OR	
Q.3	**(a)**		Enumerate the various issues in clock synchronization and classify clock synchronization algorithms.	**07**
	(b)		Define causal ordering. Explain how logical clocks are implemented in distributed systems.	**07**
Q.4	**(a)**		Discuss the issues in designing load-sharing algorithms.	**07**
	(b)		What is consistency? Discus the various consistency models used in DSM system.	**07**
			OR	
Q.4	**(a)**		Discuss the issues in designing load-balancing algorithms.	**07**
	(b)		What is coherence protocol? Explain how the MRMW protocol is implemented.	**07**
Q.5	**(a)**		What is a name server? What is namespace? Explain the name resolution.	**07**
	(b)		How the problem is specified using formal model? Discuss the formal models for message passing system.	**07**
			OR	
Q.5	**(a)**		How object locating is carried out in Distributed System? Discus different object-locating mechanisms.	**07**
	(b)		How the process is specified using formal model? Define the process execution and admissibility using formal model.	**07**

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