Seat No.: _____ **Enrolment No.: _____**

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 2715105 **Date: 03-01-2014**

Subject Name: Distributed Computing

Time: 10.30 am – 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)**	What is Distributed Computing? Explain resource sharing, client and server with reference to World Wide Web.	**07**
	(b)	What is external data representation and marshaling? Explain Java object Serialization.	**07**
Q.2	**(a)**	Discuss event based programming model with example.	**07**
	(b)	Write short note on : Failure Handling	**07**
		OR	
	(b)	Write short note on : Failure Model	**07**
Q.3	**(a)**	Why is computer clock synchronization? Explain Cristian's method for synchronizing clock.	**07**
	(b)	Explain "snapshot" algorithm of Chandy & Lamport with example.	**07**
		OR	
Q.3	**(a)**	Discuss the factors to be taken into account when deciding to which NTP server a client should synchronize its clock.	**07**
	(b)	Explain omission failure, arbitrary failure and timing failure in detail.	**07**
Q.4	**(a)**	Describe in brief the networking issues for Distributed System.	**07**
	(b)	Write a short note on : MobileIP	**07**
		OR	
Q.4	**(a)**	Write a short note on : CORBA's Common Data Representation	**07**
Q.4	**(b)**	Define the semantics for and design a protocol for a group form of request-reply interaction, for example using IP multicast.	**07**
Q.5	**(a)**	Describe the ways in which the request-reply protocol masks the heterogeneity of operating systems and of computer networks.	**07**
	(b)	Compare the worker pool multi-threading architecture with the thread-per-request architecture.	**07**
		OR	
Q.5	**(a)**	Discuss 'null' RMI and 'null' RPC. Compare monolithic kernel and microkernel.	**07**
	(b)	Write a short note on : Jini Distributed Event Specification.	**07**

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