Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–IV • EXAMINATION – WINTER • 2014

Subject Code: 2640006 **Date: 06-12-2014**

Subject Name: Distributed Computing (DC1)

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 indefinite blocking?	**02**
	(b)	Why timeout is required?	**02**
	(c)	What is data encoding	**02**
	(d)	What do you mean by abstraction?	**02**
	(e)	Why threading is required in IPC?	**02**
	(f)	What is data representation?	**02**
	(g)	What is data marshalling	**02**
Q.2	**(a)**	What do you mean by IPC? Explain the following case with diagram: (I) Synchronous Send and Synchronous Receive (II) Asynchronous Send and Asynchronous Receive	**07**
	(b)	Explain in detail Connectionless Datagram Socket API?	**07**
		OR	
	(b)	Explain in detail Stream Mode Socket API?	**07**
Q.3	**(a)**	What do you mean by paradigm? Make difference between RMI and CORBA paradigms?	**07**
	(b)	What do you mean by distributed computing? Explain the architecture of distributed application in detail? What is the role of UML for developing distributed application?	**07**
		OR	
Q.3	**(a)**	What do you mean by abstraction? Make difference between Message Passing and client-server paradigms?	**07**
	(b)	Write a short note in respect of distributed computing: i. Concurrent programming ii. Network Architecture	**07**
Q.4	**(a)**	What do you mean by server? Explain the following server with chart: A. Concurrent and iterative server B. Stateful and stateless server	**07**
	(b)	Discuss the strength and weaknesses of Distributed Computing	**07**
		OR	
Q.4	**(a)**	What is multicasting? Make a difference between connectionless and connection oriented multicasting? Explain *ttl* also?	**07**

	(b)	What is RPC? Write an algorithm for developing a RMI application and testing & debugging technique?	**07**
Q.5	**(a)**	Explain the following Java RMI terms: Remote, stub, skeleton, rmiregistry	**07**
	(b)	Discuss any one technique which is used to transfer the client-side session state Data with suitable example and figures.	**07**

OR

Q.5	**(a)**	Draw and explain basic CORBA architecture.	**07**
	(b)	What is REST? What is the use of REST? Explain any 3 basic principals possessed by Restful service	**07**

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