GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER–VI • EXAMINATION – WINTER 2013

Subject Code: 640006   **Date: 13-12-2013**
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)**	Discuss strengths and weaknesses of Distributed Computing.	**07**
	(b)	Explain indefinite blocking. Discuss the event synchronization in the following modes if IPC. 1. Synchronous Send and Synchronous Receive. 2. Synchronous Send and Asynchronous Receive	**07**
Q.2	**(a)**	Discuss the RPC & Peer-to-Peer distributed computing paradigms.	**07**
	(b)	Discuss the Client-Server & Mobile-agent distributed computing paradigms.	**07**

<div align="center">OR</div>

	(b)	Why are the data representation standards required? Discuss the XDR, ASN and XML data representation standards.	**07**
Q.3	**(a)**	Discuss the main Java API-classes involved in socket communication using UDP protocol.	**07**
	(b)	Write a Java program to implement a threaded EchoServer using TCP.	**07**

<div align="center">OR</div>

Q.3	**(a)**	Write and explain a simple DayTime server program using Stream socket API.	**07**
	(b)	Explain reliable multicasting. Discuss any 3 classifications of reliable multicast systems.	**07**
Q.4	**(a)**	Describe the Java Multicast API classes.	**07**
	(b)	Explain with complete example program: How to: 1) join to a multicast group? 2) send a DatagramPacket to a multicast group? 3) receive a DatagramPacket from a multicast group?	**07**

<div align="center">OR</div>

Q.4	**(a)**	What is RMI? Draw and explain Java RMI architecture. Show stub skeleton interactions using interaction diagram.	**07**
Q.4	**(b)**	Explain the following Java RMI terms: Remote, stub, skeleton, rmiregistry	**07**
Q.5	**(a)**	Explain how hidden form-fields can be used for transferring session state data. Draw appropriate event/interaction diagram.	**07**
	(b)	Explain the CORBA terms: Object adapter, POA, Naming service.	**07**

<div align="center">OR</div>

Q.5	**(a)**	Explain the following CORBA terms: ORB, IDL, IOR, orbd	**07**
	(b)	Explain SOAP. Compare SOAP webservices and RESTful webservices.	**07**

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