

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-IV • EXAMINATION – WINTER 2016

Subject Code: 640006**Date: 26/10/2016****Subject Name: Distributed Computing (DC1)****Time: 10.30 AM TO 01.00****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)** Differentiate the following:
1. Connection-oriented and Connection-less communication **04**
 2. Datagram socket API and Stream-mode socket API **03**
- (b)** Differentiate the following:
1. Iterative Server and Concurrent Server **04**
 2. Client-Server Paradigm and Peer-to-Peer Paradigm **03**
- Q.2 (a)** Define distributed computing. Explain the reasons for popularity of distributed computing. List and explain the most significant disadvantages of distributed computing. **07**
- (b)** What is data marshalling? Explain data representation and data encoding standards. **07**
- OR**
- (b)** What do you mean by concurrent programming? Explain three types of concurrent programming. **07**
- Q.3 (a)** Explain three-tier software architecture for client-server software. **07**
- (b)** Explain how message passing paradigm is different than the distributed object paradigm. **07**
- OR**
- Q.3 (a)** Explain the event synchronization in the following modes of IPC: **07**
- i. Synchronous send and Synchronous receive
 - ii. Asynchronous send and Asynchronous receive
- (b)** Explain Program flow of sender & receiver process using connectionless datagram socket. List methods of DatagramPacket and DatagramSocket class. **07**
- Q.4 (a)** Explain various mechanisms for sharing session data among CGI scripts. **07**
- (b)** What do you mean by reliable multicasting? Explain various types of reliable multicasting techniques. **07**
- OR**
- Q.4 (a)** Describe transferring session state data using cookies with the help of diagram. **07**
- (b)** What is RMI? Explain Java RMI architecture with diagram. Represent stub and skeleton interaction using an appropriate diagram. **07**
- Q.5 (a)** Explain the naming service and basic architecture of CORBA. **07**
- (b)** What is SOAP? Explain the simple layout of SOAP request message. **07**
- OR**
- Q.5 (a)** What is REST? What is the use of REST? Explain any 3 basic principles possessed by Restful service. **07**
- (b)** Explain the role of WSDL in SOA. **07**
