

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA - SEMESTER-IV • EXAMINATION – SUMMER • 2014**

**Subject Code: 2640006****Date: 03-06-2014****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)** Define Distributed Computing. Discuss strengths and weaknesses of Distributed Computing. **07**
- (b)**
1. What is URL? Explain its general form. **03**
  2. Compare connection-oriented and connectionless IPC. **04**
- Q.2 (a)** Explain event synchronization. Discuss event synchronization in the Synchronous Send and Asynchronous Receive modes of IPC. **07**
- (b)** Define paradigm. Explain Message System paradigm. **07**
- OR**
- (b)** Draw the diagram that depicts level of abstraction for Distributed Application Paradigm. Explain Remote Procedure Call paradigm. **07**
- Q.3 (a)** Describe key methods and constructor for JAVA Datagram Socket API. Write code snippet for MyDatagramSocket. **07**
- (b)** Describe the three tier software architecture for client software. Briefly explain the functionalities of each layer on each side. Why is it advantageous to encapsulate the logic of separate layers in separate software modules? **07**
- OR**
- Q.3 (a)** Write and explain connection-oriented EchoServer client-server program. **07**
- (b)** Explain reliable multicasting. Discuss any 3 classifications of reliable multicast systems. **07**
- Q.4 (a)** Define Local Object and Distributed Object. Draw and explain Java RMI architecture. Show stub-skeleton interactions using interaction diagram. **07**
- (b)** How cookies can be used for transferring session state data? Draw and explain appropriate event/interaction diagram. **07**
- OR**
- Q.4 (a)** Write an algorithm for developing server-side and client-side software of RMI application. **07**
- (b)** Explain SOAP. Compare SOAP webservices and RESTful webservices. **07**
- Q.5 (a)** Explain how to get EIS record from a REST service without using JWS? Also write code fragment for it. **07**
- (b)** Explain Applications of XML. **07**
- OR**
- Q.5 (a)** Explain the role of WSDL in SOA. **07**
- (b)** Write short note on XML Schema. **07**

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