

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

SEMESTER- 4 EXAMINATION – WINTER 2012

Subject code: 640006

Date: 11/01/2013

Subject Name: Distributed Computing (DC1)

Time: 10:30 – 13:00

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) Discuss the RPC & Peer-to-Peer distributed computing paradigms. **07**
(b) 1. Discuss the reasons for popularity of distributed computing. **04**
2. What is URL? Explain its general form. **03**

- Q.2** (a) Explain event synchronization. Describe event synchronization for the **07**
following IPC modes:
1. Asynchronous Send and Synchronous Receive
2. Synchronous Send and Synchronous Receive
(b) Discuss the Client-Server & Mobile-agent distributed computing paradigms. **07**

OR

- (b) Why are the data representation standards required? Discuss the XDR, ASN **07**
and XML data representation standards.

- Q.3** (a) Discuss the main Java API-classes involved in socket communication using **07**
UDP protocol.
(b) Explain Unreliable multicasting, Atomic Order Multicastig and Causal- **07**
Order Multicastig.

OR

- Q.3** (a) Describe the Java Multicast API classes. **07**
(b) Write a Java program to implement a threaded EchoServer using TCP. **07**

- Q.4** (a) Explain the following Java RMI terms: **07**
Remote, stub, skeleton, rmiregistry
(b) Discuss any one technique which is used to transfer the client-side session- **07**
state data with suitable example and figures.

OR

- Q.4** (a) With suitable example discuss the implementation of Java RMI on server. **07**
Q.4 (b) Explain the CORBA terms: Object adapter, POA, Naming service. **07**

- Q.5** (a) Explain the following CORBA terms: **07**
ORB, IDL, IOR, orbd
(b) What is the purpose of Inter-ORB protocols? Explain the GIOP and IIOP **07**
protocols. List the IIOP specification.

OR

- Q.5** (a) Write a short note on REST. **07**
(b) Explain SOAP. Compare SOAP webservices and RESTful webservices. **07**
