

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 <u>ttl</u> 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: 07
Remote, stub, skeleton, rmiregistry

(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
