

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**
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|-----|-----------------------------------|----|
| (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**
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|-----|--|----|
| (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

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| | (b) Explain in detail Stream Mode Socket API? | 07 |
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- Q.3**
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| (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**
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|-----|---|----|
| (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: | 07 |
| | i. Concurrent programming | |
| | ii. Network Architecture | |
- Q.4**
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| (a) | What do you mean by server? Explain the following server with chart:
A. Concurrent and iterative server
B. Stateful and stateless server | 07 |
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| | (b) Discuss the strength and weaknesses of Distributed Computing | 07 |
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OR

- Q.4**
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|-----|---|----|
| (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
