

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA – SEMESTER IV • EXAMINATION – SUMMER 2017**

**Subject Code: 2640006****Date: 08/06/2017****Subject Name: Distributed Computing****Time: 10.30 am to 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 the term distributed computing. What are the various reasons for the popularity of distributed computing and what are its most significant disadvantages? **07**
- (b) What do you mean by event synchronization? What is the need to implement event synchronization? Explain it with the suitable event diagram for the following IPC modes: **07**  
Synchronous send and synchronous receive  
Asynchronous send and synchronous receive
- Q.2** (a) What are the various data encoding standards? Explain in detail. **07**
- (b) Draw and explain HTTP event diagram. **07**
- OR**
- (b) Differentiate between the following **07**  
Mobile agent paradigm and Message system paradigm  
Connection oriented and connectionless services
- Q.3** (a) (i) Explain the concept of secure socket API and SSL **04**  
(ii) Explain the importance of Time to Live in the multicasting API context. **03**
- (b) According to three layer software architecture, explain daytime client server using connectionless datagram socket. **07**
- OR**
- Q.3** (a) Explain with example how to join a multicast group, how to send the messages in the group and how to receive the messages. **07**
- (b) What is RMI? Draw and explain Java RMI architecture. Show diagrammatically how stub-skeleton interaction is done? **07**
- Q.4** (a) Explain the following Java RMI terms: **07**  
Remote Server, Stub, Skeleton, rmregistry
- (b) Explain the naming service and basic architecture of CORBA. **07**
- OR**
- Q.4** (a) With the diagram explain web service infrastructure and stepwise communication. **07**
- (b) Write short note on REST **07**
- Q.5** (a) Explain SOAP. Explain its architecture in detail. **07**
- (b) Discuss advantages and disadvantages of web services over the other technologies. **07**
- OR**
- Q.5** (a) Explain reliable multicasting. Discuss various classifications for reliable multicast system. **07**
- (b) Describe various Java multicast classes in detail. **07**

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