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BCACAC 333

**Choice Based Credit System Fifth Semester B.C.A. Degree
Examination, April/May 2022
(2021-22 Batch Onwards)
DISTRIBUTED COMPUTING (Group – I)**

Time : 3 Hours

Max. Marks : 80

Note : Answer **any ten** questions from Part – A and **one full** question from **each** Unit in Part – B.

PART– A

(10×2=20)

1. a) Define Distributed Computing ?
- b) What are the differences between program and process ?
- c) What are network service and network applications ?
- d) Expand ORB, RPC.
- e) What is client server paradigm ?
- f) Define abstraction.
- g) What do you mean by daytime service ?
- h) What is unreliable multicast ?
- i) What do you mean by stateless and stateful protocols ?
- j) What are local and remote objects ?
- k) What are stubs and skeletons ?
- l) List the four well known toolkits for distributed object systems.

PART– B

(4×15=60)

Unit – I

2. a) What are different forms of computing ? Explain any two.
- b) Explain the architecture of distributed applications with neat diagram.
- c) Explain synchronous send and synchronous receive with block diagram.

(5+5+5)

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3. a) Explain with diagram IPv4 address scheme.
b) Write a note on secure socket API.
c) Explain strengths and weaknesses of distributed computing. (5+5+5)

Unit – II

4. a) Write a note on message passing paradigm.
b) Explain Event Diagram and Sequence Diagram.
c) What do you mean by stream mode socket API ? Explain with diagram. (5+5+5)
5. a) With diagram explain the Network Service Paradigm.
b) Write a note on trade-offs of distributed computing paradigms.
c) Explain with diagram connectionless and connection-oriented datagram socket. (5+4+6)

Unit – III

6. a) Explain client-server distributed computing paradigm with diagram.
b) What are stateful servers ? Explain two states of information.
c) Explain the mechanism of testing network services. (5+5+5)
7. a) Write a note on an archetypal multicast API.
b) Explain :
i) FIFO reliable multicasting.
ii) Causal-order reliable multicasting.
c) Explain the process of sending and receiving multicast messages to a multicast group. (5+5+5)

Unit – IV

8. a) With a neat diagram explain the Java RMI architecture.
b) Write a note on RMI Security Manager.
c) With diagram explain polling and callbacks in RMI. (5+5+5)
9. a) Write the difference between RMI and socket API.
b) With a neat diagram explain stub downloading.
c) What are the steps involved in testing and debugging of RMI application ? (5+5+5)
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