Reg. No. ☐☐☐☐☐☐☐☐☐☐

BCACAC 315

Credit Based Fifth Semester B.C.A. Degree Examination, Oct./Nov. 2017
(Common to All Batches) (New Syllabus)
DISTRIBUTED COMPUTING

Time : 3 Hours   Max. Marks : 100

Note : Answer **any ten** questions from Part – **A** and **any one** full

question from **each** Unit in Part – **B**.

PART – A

1. a) What are network service and network applications ?   **(10×2=20)**

   b) Which are the four primitive operations of IPC ?

   c) Define threads.

   d) What do you mean by abstraction ?

   e) What is client server paradigm ?

   f) Which are the two types of sockets in stream mode socket API ?

   g) Draw the diagram for one-to-one and group communication.

   h) What is unreliable multicast ?

   i) Define echo protocol.

   j) What is object registry ?

   k) Why we use import and export statements in Java RMI object ?

   l) List the four well known toolkits for distributed project systems.

P.T.O.

PART – B

Unit – I

2. a) Write and explain different forms of computing.

   b) Write a note on host identification and Internet protocol addressing.

   c) What is IPC ? Differentiate unicast and multicast.   (8+7+5)

3. a) Write a note on synchronous send and asynchronous receive. Explain all its scenarios with diagram.

   b) What do you mean by concurrent programming ? Explain its types.

   c) Write the simplified state transition diagram of a process and explain it. Also write the difference between program and process.   (8+7+5)

Unit – II

4. a) Explain :

      i) Object request broker paradigm

      ii) Message passing paradigm.

   b) Write a note on trade-offs of distributed computing paradigms.

   c) Write a note on secure socket API.   (8+7+5)

5. a) What are connectionless and connection oriented datagram sockets ? Explain with diagrams.

   b) Explain the network service paradigm and mobile agent paradigm with a neat diagrams.

   c) Write a note on collaborative application (Group ware) paradigm. Explain its two types.   (8+7+5)

Unit – III

6. a) Briefly explain client-server paradigm issues.

   b) Write a note on Atomic order reliable multi casting.

   c) Briefly explain the process of sending and receiving multicast messages to a multicast group. **(10+5+5)**

7. a) Write and explain the classification of reliable multicast systems.

   b) Explain the mechanism of testing a network service.

   c) What are stateful servers ? Briefly explain the two states of information. **(8+6+6)**

Unit – IV

8. a) With a neat diagram explain the Java RMI architecture.

   b) Write the algorithm for developing the server-side software when building an RMI application with client callback.

   c) Write the difference between RMI and socket API. **(8+6+6)**

9. a) With an example explain a sample RMI application in Java.

   b) Write a note on RMI security manager.

   c) Explain the architecture of RMI with client callback. **(10+5+5)**

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