

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: M.TECH
BRANCH: CSE

SEMESTER : I
SESSION : MO/19

SUBJECT: CS504 DISTRIBUTED SYSTEMS

TIME: 3.00Hrs.

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Present the basic features of a distributed system. Explain with an example. [5]
Q.1(b) Briefly explain challenges that needs to be handled in a distributed system with respect to transparency. [5]
- Q.2(a) Discuss the three types of RPC exchange protocols. [5]
Q.2(b) Describe implementation of group communication by the IP multicast. [5]
- Q.3(a) Elaborate server and client caching features of the Sun Network File System. [5]
Q.3(b) What is the role of peer to peer middleware? Is Napster application architecture peer-to-peer? [5]
- Q.4(a) With the help of an example show how we can determine the global state of the system using the snapshot algorithm of Chandy and Lamport. [5]
Q.4(b) Present the Maekawa's algorithm for solving critical section problem. [5]
- Q.5(a) Differentiate between flat and nested transactions? Write the two-phase commit protocol for flat transactions. [5]
Q.5(b) State the significance of concurrency control. Explain parallel validation protocol. [5]

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