Reg No.									

MANIPAL INSTITUTE OF TECHNOLOGY
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MANIPAL-576104

SEVENTH SEMESTER B.E (CSE) DEGREE END SEMESTER EXAMINATION
NOV. 2012
DISTRIBUTED SYSTEMS (CSE 401)
DATE: 26-11-2012

TIME: 3 HOURS MAX.MARKS: 50

Instructions to Candidates

- Answer **any five** full questions.

1A.What is network transparency in distributed system? Explain any 4 types of transparencies.

1B.With a neat diagram discuss in detail about the failure model of the fundamental model.

1C.What factors affect the responsiveness of an application that accesses shared data managed by a server? Describe and discuss the remedies that are available.

(4 + 4 + 2)

2A.What is RMI? Explain in detail about the implementation of RMI with a neat diagram.

2B. Discuss on the following failure model of request – reply protocol in client-server interaction.

a) Discarding duplicate request messages

b) Lost reply messages

c) History

2C.What is called as scheduler activation? List out the four types of event that the kernel notifies to the user level scheduler.

(4 + (1+1+1) + 3)

3A. Explain in detail the role of Lightweight Remote Procedure Call with a neat diagram.

3B. Discuss and explain the Sun Network File System and its modules in detail with a neat diagram.

3C.What are the different types of navigation techniques used in name resolution?

(4 + 4 + 2)

4A. Explain in detail about the Cristian's method for synchronizing clocks.

4B. Discuss on the following problems of concurrent transaction with necessary transaction tables.

a) Lost Update Problem

b) Inconsistent Retrieval Problem

4C. Explain in detail the two phase commit protocol for nested transaction.

(3+ (1.5 + 1.5) + 4)

5A. Explain the following in detail

a) Cascading aborts b) Premature writes c) Dirty read problem

5B. Discuss in detail the edge chasing algorithm with a neat diagram.

5C. Explain the following consistency models in detail with a neat diagram.

a) FIFO consistency b) Causal Consistency c) Strict Consistency

((1+1+1) + 4 + (1+1+1))

6A. Discuss on the following with neat diagrams

a) Local write protocols

b) Active Replication

6B.What is virtual synchrony? Explain in detail the implementation of virtual synchrony.

((3+2) + 5)

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