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Reg. No. : .....

Name : .....

Eighth Semester B.Tech. Degree Examination, April 2015
(2008 Scheme)
08.804 : DISTRIBUTED SYSTEMS (R)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **four** marks.

1. Give the key characteristics of peer-to-peer distributed systems.
2. What is meant by mobile code ? What are its disadvantages ?
3. What are Byzantine failures ?
4. Explain the challenges of distributed systems with respect to the transparency of its components.
5. Compare between pre-emptive scheduling and non pre-emptive scheduling of threads.
6. "Parameter passing mechanisms of conventional procedure calls are not suitable for distributed systems." Why ?
7. What are sockets ? Does port and socket the same ?
8. Explain linearizability of replicated objects.
9. Explain 'dirty read' and 'premature write' problems with respect to transactions.
10. How is backward validation of transaction done ? **(10×4 = 40 Marks)**

P.T.O.

PART – B

Answer **any one** question from **each** Module. **Each** question carry **20** marks.

Module – I

11. a) Describe challenges in the design of scalable distributed systems. **8**

    b) Explain failure model of distributed systems. **12**

OR

12. a) Explain Mobile IP routing mechanism. **10**

    b) Explain the use of firewall in an organization. Describe different types of firewall configurations. **10**

Module – II

13. a) How IP multicast facilitate group communication ? **10**

    b) State the similarities and differences between RPC and RMI. **10**

OR

14. a) Explain different components for the implementation of RMI. **10**

    b) What is marshalling ? Why is it necessary for inter process communication ? Explain. **10**

Module – III

15. a) Explain edge chasing algorithm for distributed transactions using a suitable example. How many messages are transferred between servers to detect a deadlock involving N transactions ? Explain. **12**

    b) Describe the architecture of distributed file system. **8**

OR

16. a) Explain the sequence of events when a client requests an operation in passive replication. How does it differ from active replication ? **8**

    b) Explain the rules for commitment of nested transactions. How can locks be applied for nested transactions ? **12**