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IT

1843

Reg. No. :

Name :

Eighth Semester B.Tech. Degree Examination, April/May 2012
(2008 Scheme)
08.806 B : DISTRIBUTED SYSTEMS (F)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. The process that manages a shared resource can take one client request at a time, but this approach limits throughput. Explain how distributed systems overcome this limitation.
2. What is the necessity of event ordering in asynchronous distributed systems. Explain with an example.
3. Briefly explain how mobile IP works.
4. Describe the failure model for request reply protocol.
5. Object based models are found to be highly suitable for distributed system design. Justify.
6. List the functions of Remote reference module in RMI.
7. How does publish-subscribe paradigm work to achieve inter object communication ?
8. Explain how the notion of a process in traditional operating system is extended to execution environment in distributed systems.
9. What is the function of virtual file system of NFS ?
10. What is lost update problem in the context of transactions ? Explain with an example.

(10×4=40 Marks)

P.T.O.





PART – B

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

Module – I

11. a) What is the use of Architectural models in distributed system design. Explain with examples. 10
- b) What are the possible occurrences of each of the main types of security threats (threats to processes, threats to communication channels, denial of service) that might occur in the internet. 10

OR

12. a) What are the challenges involved in scalable distributed system design ? 5
- b) Explain the role of fundamental models in distributed system design. 8
- c) What is the function of a firewall in a network ? What are the different modes of implementation of the same ? 7

Module – II

13. a) What is the use of external data representation and marshalling ? 5
- b) Compare the different techniques for external data representation and marshalling. 7
- c) Explain how Remote Procedure Call (RPC) is implemented. 8

OR

14. a) Describe request-reply protocol associated with client server communication. 10
- b) Distinguish between RMI and RPC ? Briefly outline how RMI can be implemented in a distributed environment. 10





Module – III

- 15. a) Explain the terms (a) thread synchronization. (b) thread life time (c) thread scheduling. 6
- b) Differentiate between distributed operating system and network operating system. 8
- c) What are the requirements of distributed file systems ? 6

OR

- 16. a) Explain nested transaction in the context of distributed transactions. 10
- b) Compare and contrast the three techniques for concurrency control, (i) strict two-phase locking, optimistic methods and time stamp ordering. 10

