

IV B.Tech. I Semester Regular Examinations, November -2005
DISTRIBUTED SYTEMS
(Common to Computer Science & Engineering and Electronics &
Computer Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Distinguish a Distributed System from a Simple Network System, with examples.
(b) Write about IP-multicast. [8+8]
2. (a) Distinguish datagram communication from stream communication in UNIX.
(b) With a neat sketch, explain the concept of Remote Procedure Call (RPC). [6+10]
3. (a) Write about threads implementation methods.
(b) Distinguish a distributed OS from Network OS. [10+6]
4. State and explain the various design issues in SUN network file system. [16]
5. (a) Explain the design issues of SNS- a name service model.
(b) Write about logical clocks. [10+6]
6. (a) Explain how transactions are recovered.
(b) Write about distributed deadlocks handling. [6+10]
7. (a) What is meant by DSM (distributed shared memory)? Draw its abstraction diagram.
(b) State the design issues of DSM, and write about any two of them. [8+8]
8. Write on any TWO of the following:
(a) Release consistency
(b) Digital signature
(c) Concurrency Control [2×8]

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1. (a) What is a Distributed System? Write about any two design issues.
(b) Write about group communication. [12+4]
2. (a) With a neat sketch, explain the concept of Remote Procedure Call (RPC).
(b) Write about IPC (Inter Process Communication) in general. [10+6]
3. (a) State and explain the distributed file system components.
(b) Distinguish the terms-process and thread. [10+6]
4. State the design issues of a distributed file system. Identify them in SUN network file system. [16]
5. What is replication? How the replication achieves high availability? Explain its architectural model, and consistency issues. [16]
6. (a) Explain the atomic commit protocols.
(b) Explain the term-fault tolerance w.r.t a distributed system. [10+6]
7. What is a DSM (distributed shared memory)? Write about its design and implementation issues. [16]
8. Write on any TWO of the following:
(a) IVY, a case study of DSM
(b) Digital Signatures
(c) Concurrency Control. [2×8]

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1. (a) Explain a Distributed System with examples.
(b) Write about Inter Process Communication (IPC). [8+8]
2. (a) Explain the concept of Remote Procedure Call (RPC) through a diagram.
(b) Explain the concept of IP multicast. [10+6]
3. Write about SUN network file system giving a neat sketch of its architecture. [16]
4. (a) What is a distributed OS? Write about its kernel.
(b) State and explain the distributed file system components. [6+10]
5. (a) **Write about** transactions and nested transactions
(b) State and compare the methods for concurrency control. [6+10]
6. (a) Write about transaction recovery in distributed systems.
(b) Explain how distributed systems are made fault tolerant. [8+8]
7. What is a DSM (distributed shared memory)? Write about its design issues by taking IVY as a case study. [16]
8. Write on any TWO of the following:
(a) Release consistency in Munin.
(b) Types of Security Threats
(c) Logical Clocks. [2×8]

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1. (a) Characterize a Distributed System with examples.
(b) Write about Inter Process Communication (IPC) in UNIX. [8+8]
2. (a) Write about the concept of Remote Procedure Call (RPC).
(b) List and distinguish the IPC mechanisms in UNIX. [8+8]
3. (a) Distinguish a process from a thread.
(b) Write about threads implementation methods. [6+10]
4. With a neat sketch of architecture, write about SUN network file system. [16]
5. Write on the following terms:
(a) Logical clocks
(b) Transactions
(c) Concurrency control [4+6+6]
6. (a) Write about deadlocks handling in distributed environment.
(b) Write briefly about fault-tolerance. [12+4]
7. What is a DSM (distributed shared memory)? Write about different consistency models giving examples. [16]
8. Write on any TWO of the following:
(a) IVY, a case study of DSM
(b) Digital Signatures
(c) Atomic Commit Protocols. [2×8]
