R09

Code No: C6202
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I - Semester Examinations, March/April 2011
DISTRIBUTED SYSTEMS
(WEB TECHNOLOGIES)

Time: 3hours   Max. Marks: 60

Answer any five questions
All questions carry equal marks
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1. a) What is the importance of Client- Server communication in Distributed systems.
   What are the main operations of the request- reply protocol?
   b) In Remote Procedure Calls, what are the roles of the Client and Server Stub Procedures?
   [8+4]

2. a) Compare between the microkernel based operating System and the monolithic operating
   system design.
   b) What are the various requirements of Distributed File Systems?   [6+6]

3. a) What are the criteria for evaluating the performance of mutual exclusion algorithms?
   Explain.
   b) What are Nested Transactions? How are they different from Flat transactions? What are
   the main advantages of Nested Transactions?   [6+6]

4. a) Differentiate between the Backward and Forward validation approaches in the
   Optimistic Concurrency Control Algorithms.
   b) Explain the Edge- chasing distributed Deadlock Detection Algorithm.   [6+6]

5. a) Bring out the importance of Digital Signatures in ensuring Security in Distributed
   Systems.
   b) For the various distributed shared memory consistency models, in what ways can updates
   be propagated?   [6+6]

6 a) With suitable diagram, explain the architecture of SUN Network File System.
   b) What are the motivations for Replication in distributed Systems?   [6+6]

7. a) Give a comparison of different methods for concurrency control.
   b) Explain the Memory Management mechanism in MACH operating system.   [6+6]

8. Write short notes on
   a) IPC in UNIX.
   b) Logical clocks.
   c) Fault Tolerance in Distributed Systems.   [6+6]

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