R09

Code No: C8406

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations March/April-2011
DISTRIBUTED OPERATING SYSTEMS
(REAL TIME SYSTEMS)

Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks
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1. (a) List the three main software components that may fail when a client process invokes a method in a server object, giving an example of a failure in each case. Suggest how the components can be made to tolerate one another's failures.
   (b) The internet is far too large for any router to hold routing information for all destinations. How does the internet routing scheme deal with this issue. [12]

2. (a) Describe the procedure to configure a firewall to protect the LAN at your college. What incoming and outgoing requests should it intercept?
   (b) Explain the client–server communication with Request-reply message structure? [12]

3. (a) Do you think the threads for multiprocessor systems should be different from that of a uniprocessor system? Give reasons.
   (b) Describe the implementation of RMI. [12]

4. (a) Explain about the logical clocks of distributed systems?
   (b) What reconfigurations would you expect to occur in the NTP synchronization subnet? [12]

5. (a) Write a program for Lock Manager class function.
   (b) What are the advantages and drawbacks of multi version time stamp ordering in comparison with ordinary time stamp ordering? [12]

6. (a) Explain the two-phase commit protocol for nested transactions.
   (b) What is a deadlock? Describe the distributed deadlocks? [12]

7. (a) Briefly explain the security techniques of distributed systems.
   (b) How do you implement the digital signatures in Private and Public key systems? [12]

8. (a) What is the role of micro kernel in operating System Architecture?
   (b) Explain the Linearizability and sequential consistency of fault tolerant services. [12]

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