R15

Code No: 824AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA IV Semester Examinations, August - 2017
DISTRIBUTED SYSTEMS

Time: 3hrs **Max.Marks:75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

5 × 5 Marks = 25

1.a) Differentiate between tightly coupled and loosely coupled systems. [5]
b) What are the design goals of SUN network file system? Discuss. [5]
c) How mutual exclusion is done in distributed systems? Give example. [5]
d) What are the necessary conditions for a deadlock to occur in distributed systems? [5]
e) What is the difference between sequential and release consistency? Explain. [5]

PART - B

5 × 10 Marks = 50

2. Characterize distributed systems and explain different architectural models of distributed systems. [10]

OR

3. Explain how Inter Process Communication is achieved in distributed systems. [10]

4. Draw and explain the architecture for multi threaded servers. Discuss the issues related to thread programming, thread lifetime, thread synchronization, scheduling and implementation. [10]

OR

5. Explain the case studies of Global Name Service and X.500 directory service. [10]

6. Describe the internal and external synchronization of physical clocks. Give an example execution of a ring based algorithm to show that the processes are not necessarily granted entry to critical section. [10]

OR

7. Explain the case studies of Squirrel and Ocean Store in detail. [10]

8. How concurrency control is attained in distributed systems? Make a comparison of methods of concurrency control in distributed systems. [10]

OR

9. What is meant by fault tolerant services? Explain how primary backup model of replication is fault tolerant. [10]

10. Write a detailed note on the case study of CORBA. Also discuss about CORBA RMI and CORBA Services. [10]

OR

11. What is distributed shared memory? Explain about page based shared memory system in detail. [10]

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