Reg. No. : | | | | | | | | | | | | |

Question Paper Code: 1045023

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV/ DEC 2024
Fifth Semester
Computer Science and Engineering
U20CS512 – DISTRIBUTED SYSTEMS
(Regulation 2020)

Time: Three Hours | Maximum: 100 Marks

Answer ALL Question

PART – A (10 x 2 = 20 Marks)

1. List the challenges in the design of distributed systems.

2. State any four factors to be considered for variations in client server model.

3. Compare RMI with RPC.

4. Define the term Marshalling.

5. List out the characteristics of peer-to-peer middleware.

6. What are the limitations of Napster?

7. Specify the techniques used to synchronize clocks.

8. State the conditions for byzantine agreement problem.

9. What is the sub activities involved in process migration?

10. How would you define “Thread is a lightweight process”?

PART – B (5 x 16 = 80 Marks)

11. (a) Explain in detail about the trends in distributed systems. 16

(OR)

(b) Consider a WWW distributed application design. Elaborate the characteristics and challenges in the above design when considering resource sharing phenomenon. 16

12. (a) Explain the necessary and sufficient conditions for casual ordering in detail. 16

(OR)

(b) Discuss in detail about the Snapshot algorithms for FIFO channels. 16

13. (a) Discuss in detail about the requirements that mutual exclusion algorithms should satisfy and also discuss what metric should we use to measure the performance of mutual exclusion algorithms. 16

(OR)

(b) List out the four classes of distributed deadlock detection algorithms and explain any two of them. 16

14. (a) Why computer clock synchronization is necessary? Describe the design requirements for a system to synchronize the clocks in a distributed system. 16

(OR)

(b) Explain the issues involved in a failure recovery with the help of a distributed computation. 16

15. (a) Explain about Content- Addressable Networks (CAN) and its usage in P2P networks. 16

(OR)

(b) Discuss in detail about Distributed Shared Memory (DSM) and its applications. 16

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