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Reg. No. :

Question Paper Code : 90422

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Sixth Semester

Computer Science and Engineering

CS 8603 – DISTRIBUTED SYSTEMS

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What do you mean by Message Passing?
2. Define Distributed Program.
3. What do you mean by Synchronous and Asynchronous Execution?
4. What is meant by asynchronous programming?
5. Explain the term mutual exclusion.
6. What is Deadlock?
7. State the use of Rollback Recovery.
8. What is Consensus in distributed System?
9. What do you understand by two lines Peer-to-Peer computing?
10. Define Data Indexing.

PART B — (5 × 13 = 65 marks)

11. (a) Illustrate the difference between Message Passing and Shared Memory Process Communication Model.

Or

- (b) Explain the types of group communications used in Distributed System.

12. (a) What are the four different types of ordering the messages? Explain.

Or

(b) Elucidate on the Total and Casual Order in Distributed System with a neat diagram.

13. (a) Explain Ricart Agrawala Algorithm with an example.

Or

(b) Name and explain the different types of deadlock models in Distributed system with the commonly used strategies to handle deadlocks with a neat diagram.

14. (a) Illustrate the different types of failures in distributed systems and explain how to prevent them.

Or

(b) Illustrate briefly the two kinds of checkpoints for checkpoint algorithm.

15. (a) Explain the different types of Overlay Networks with its advantages and disadvantages.

Or

(b) Critically examine the different types of Distributed Shared Memory with its advantages.

PART C — (1 × 15 = 15 marks)

16. (a) Design the procedure for causality in a synchronous execution with a suitable example.

Or

(b) Analyse Suzuki-Kasami's Broadcast Algorithm for Mutual Exclusion in Distributed system.