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Question Paper Code	12155
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B.E. / B.Tech - DEGREE EXAMINATIONS, NOV / DEC 2023

Sixth Semester

**Computer Science and Engineering
CS8603 - DISTRIBUTED SYSTEMS**

(Regulations 2017)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. Define the term Distributed System. | 2,K1,CO1 |
| 2. Define a CUT. | 2,K1,CO1 |
| 3. What is synchronous DS? | 2,K1,CO2 |
| 4. Compare the deterministic and nondeterministic program approach. | 2,K2,CO2 |
| 5. Define Realizable with Synchronous Communication. | 2,K1,CO3 |
| 6. Define a Crown. | 2,K1,CO3 |
| 7. List the three types of messages for Deadlock handling. | 2,K1,CO4 |
| 8. Illustrate the phantom deadlocks. | 2,K2,CO4 |
| 9. Define the term rollback Recovery. | 2,K1,CO5 |
| 10. Relate the agreement problem and the consensus problem. | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

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| 11. a) Explain in detail the various types of parallel systems and its relation with Distributed System. | 13,K2,CO1 |
| OR | |
| b) Discuss the various primitives of Distributed communication. | 13,K2,CO1 |
| 12. a) Illustrate the implementation of Frame work of logical clock with examples. | 13,K2,CO2 |
| OR | |
| b) Discuss in detail about the distributed algorithm to implement total and causal order of messages. | 13,K2,CO2 |
| 13. a) Explain the algorithm for Bagrodia binary rendezvous algorithm. | 13,K2,CO3 |

OR

b) Discuss about the Knapp's classification of distributed deadlock detection algorithm. *13,K2,CO3*

14. a) Explain Suzuki kasami algorithm with suitable examples. *13,K2,CO4*

OR

b) Explain quorum based mutual exclusion Maekawa algorithm in detail. *13,K2,CO4*

15. a) Discuss about the phase-king algorithm for consensus. *13,K2,CO5*

OR

b) Explain the types of memory consistency models with suitable illustrations. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Elucidate the structured overlays and unstructured overlays in distributed indexing. *15,K4,CO6*

OR

b) Discuss the CAN maintenance and CAN optimizations. *15,K4,CO6*