Register No.: ..... Name: .....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SECOND SEMESTER MCA DEGREE EXAMINATION (R), MAY 2023

(2021 SCHEME)

Course Code: **21CA203-C**

Course Name: **Distributed Systems**

Max. Marks: **60** **Duration: 3 Hours**

PART A

(Answer all questions. Each question carries 3 marks)

1. Write a note on distribution transparency.
2. Differentiate message passing systems and shared memory systems.
3. Define the terms clock skew and clock drift.
4. What is the role of interfaces in distributed system ?
5. Write a note on Lamport's logical clock.
6. Explain about name service.
7. List the components of distributed file system.
8. With an example, describe the working of ring-based election algorithm.
9. What is sequential consistency?
10. Explain the role of middleware in distributed systems.

PART B

(Answer one full question from each module, each question carries 6 marks)

MODULE I

11. Explain types of failures in fundamental model of distributed systems. (6)

OR

12. a) What is distributed system? (2)
    b) Explain the goals of distributed systems. (4)

MODULE II

13. Describe distributed algorithm in clock synchronization. (6)

OR

14. With a neat diagram, explain the implementation of RMI. (6)

MODULE III

15. Explain Ricart Agrawala algorithm. (6)

OR

16. a) What is multicast communication? (2)
b) Explain the types of message ordering in multicast communication. (4)

MODULE IV

17. Differentiate NFS and AFS. Explain both file systems in detail. (6)

OR

18. a) What is virtual file system? (2)
b) Explain the role of virtual file system in NFS. (4)

MODULE V

19. Explain CORBA architecture. (6)

OR

20. Summarize mobile agent in distributed systems. (6)

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