A1

Name……

Roll No……

Mar Baselios Christian College of Engineering & Technology, Peermade
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B. Tech First Series Examination, February 2025
Eighth Semester
Computer Science and Engineering
CST 402: DISTRIBUTED COMPUTING

CO 1	**Summarize various aspects of distributed computation model and logical time.**
CO 2	**Illustrate election algorithm, global snapshot algorithm and termination detection algorithm**

Time: 1hr & 30mins. **Total Mark: 50**

	PART A					
	Answer All Questions					
Qn. No.		*Mark*	*CO*	*PO*	*PSO*	*Level*
1	List the Characteristics of Distributed System	3	1	1,2	1	1
2	Explain about the causal precedence relation in distributed executions.	3	1	1,2	1,3	1
3	Discuss about the transparency requirements of distributed system.	3	1	1,3, 5	1,3	2
4	Assume that the surface of the past cone form a consistent cut. Does it mean that all events on the surface of the past cone are always concurrent? Demonstrate with the help of an example. .	3	1	1,2, 4	1	3
	Answer Any One Question.					
5	a. Which are the different versions of send and receive primitives for distributed communication? Explain. b. Explain the three different models of service provided by communication networks.	7 6	1	1,2, 12	1,3	2
6	a. Discuss about the global state of distributed systems. b. Explain the applications of distributed computing.	7 6	1	1,2, 12	1,3	2
	PART B					
	Answer All Questions					
7	Specify the issues in recording a global state.	3	2	1,2	1	2

8	Define termination detection.	3	2	1,2	1	2
9	What are the rules used to update clocks in scalar time representation?	3	1	1,2	1	1
10	Outline the basic properties of vector time.	3	1	1,2	1	2
	Answer Any One Question.					
11	a. Illustrate ring algorithm for electing a new leader with example b. Implement and demonstrate the working of the Chandy-Lamport algorithm.	7 6	2	1,2	1	3
12	a. Illustrate bully algorithm for electing a new leader with example. b. Apply the weight throwing method to detect termination in a distributed system and demonstrate its working.	7 6	2	1,2	1	3