Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Department of Information Technology

Course Code	UIT2702	Course Name	Cloud and Distributed Computing
Regulation	2021	Academic Year	**2025-2026**
Semester		VII	
Department Offering the Course		Information Technology	
Exercise: 07		Message Passing and Distributed Mutual Exclusion	

Objective:

To implement logical clocks and vector clocks to manage event ordering and causality in distributed systems.

PROCEDURE:

Task 1 - Logical Clocks (Lamport's Logical Clock):

- Initialize each process with a logical clock.
- For each event or message sent, increment the clock and send the timestamp.
- On message receipt, update the clock based on the received timestamp, ensuring ordered
- events.

Task 2 - Vector Clocks:

- Set up each process with a vector representing the state of all processes.
- For each event or message sent, update the process's vector and transmit it.
- Upon receipt, merge the vectors to reflect concurrent events and causality relationships.