Degree & Branch	B.E & CSE			Semester	VII
Subject Code & Name	**UCS 1701 –Distributed Systems**				
Academic Year	2023-2024 ODD	**Batch**	2020-2024		
Due Date: 15-November-2023	**Assignment 2**			**Maximum: 40 Marks**	

COURSE OUTCOMES
On successful completion of this course, the student will be able to

CO1- Realize the foundations of Distributed Systems [K2]

CO2- Able to solve synchronization and state consistency problems [K3]

CO3- Demonstrate the resource sharing techniques in Distributed systems [K3]

CO4- Comprehend the working model of consensus and reliability of Distributed Systems [K3]

CO5- Identify the fundamentals of Peer-to-Peer Systems [K2].

CO6- Formulate a synchronization problem for an ad-hoc distributed system and adapt its solution [K6]

1. ANALYSIS OF STARVATION FOR THE GIVEN RESOURCE REQUEST ORDER

Consider 4 processes P1, P2, P3 and P4 in a distributed system. The Resource request model is expressed as P1→ P2 || P3 → P4 || P1.

(Note: → indicates sequential and || indicate concurrent executions)

a. Apply Lamport's D-Mutex algorithm for the given resource request model. [CO3, K4] (PI: 1.3.1, 1.4.1, 2.1.1, PSO1: 13.1.1) (10 Marks)

b. Inspect the steps for the occurrence of starvation (. [CO3, K4] (PI: 1.4.1, 2.2.2, PSO1: 13.1.1) (10 Marks)

c. Conclude whether the system suffers due to starvation or not for the given scenario. [CO3, K4] (PI: 2.2.3, PSO1: 13.1.1) (10 Marks)

a. Examine the importance of reliability of the processes involved in the system. [CO4, K4] (PI: 2.1.1,2.2.3 PSO1: 13.1.1) (10 Marks)