RICARTA - AGARWALA ALGORITHM

Aim:

Ricart - Agarwala Algorithm aims to acheive mutual exclusion in a distributed system while minimising message complexity and avoid deadlocks.

Concepts Applied:

1. Request-Reply Messages: Processes in the system communicates with each other by sending request and reply messages. Processes use these messages to request access to critical section and to grant or deny access to other processes.

2. Timestamps: Each process maintains a logical clock to timestamp its events. Timestamps are used to establish a ordering of events in the System.

Algorithm:

1. When a process wants to enter the critical section, it sends a request message to all other process, including it's own timestamp.

2. Upon receiving a request message, a process compare its request's timestamp with its own. If the incoming request has a lower timestamp, the process sends a reply granting access.

3. If its receiving process under critical section, it defers its reply until it exits critical section.

4. After exiting the critical section, the process checks its deferred reply queue and sends replies to deffered request.