Started on	Monday, 30 January 2023, 2:35 PM
State	Finished
Completed on	Monday, 30 January 2023, 2:44 PM
Time taken	8 mins 9 secs
Marks	15.00/40.00
Grade	**3.75** out of 10.00 (**38**%)

Question **1**

Incorrect

Mark 0.00 out of 10.00

For the Ricart Agarwala's Algorithm discussed; does the algorithm require a heap data structure?

☑ a. Yes ✖

☐ b. No

☐ c. Only to store the timestamps of those processes who are neither in Critical Section nor waiting to enter the critical section

Your answer is incorrect.

The correct answer is:
No

Question **2**

Correct

Mark 10.00 out of 10.00

Mark all that are true

☑ a. The Ricart Agrawala's algorithm with work for non-FIFO system of messages ✔

☐ b. The Ricart Agrawala's algorithm with work only for FIFO system of messages

☑ c. The Lamport Algorithm for Mutual Exclusion works only on FIFO system of messaging ✔

☐ d. The Lamport Algorithm for Mutual Exclusion can work on a non-FIFO system of messaging

Your answer is correct.

The correct answers are:
The Ricart Agrawala's algorithm with work for non-FIFO system of messages,

The Lamport Algorithm for Mutual Exclusion works only on FIFO system of messaging

Consider the case where process Pi would like to re-enter the CS immediately after exit. Prof A proposes a modified version of Ricart Agarwala's algorithm where: if a process Pi would like to re-enter CS immediately; then Prof A's algorithm allows it to do so without sending out request messages at all. It quietly enters CS and then sends out the reply messages to all processes Pj for which RD[j=1. For such an algorithm; mark the correct choices
GMT is greenwich mean time or Global understanding of time.

- ☐ a. The algorithm is incorrect since two processes might enter the CS at the same time

- ☑ b. The algorithm ensures that no two process enter the CS at the same time ✔

- ☐ c. In Ricart Agarwala's algorithm the process who raised the request first by GMT gets the CS first but Prof A's algorithm does not ensure this.

- ☐ d. Both Ricart Agarwala's algorithm and Prof A's algorithm ensures that the process who raised the request first by GMT gets the CS first

- ☐ e. Both Ricart Agarwala's algorithm and Prof A's algorithm do not ensure that the process who raised the request first by GMT gets the CS first

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
The algorithm ensures that no two process enter the CS at the same time,

Both Ricart Agarwala's algorithm and Prof A's algorithm do not ensure that the process who raised the request first by GMT gets the CS first

Consider a system of 10 processes where only two processes want to enter CS. A process Pk has a lot of local events and hence high scalar time when it sends out its broadcast for CS. However, another process Pj has very low scalar time when he requests CS but Process Pj needs to request CS ten times which Pk requires CS only once. By global time or GMT; the first broadcast of Pj and Pk are sent out at the same time. When using the Lamport algorithm which among the below are true

- ☐ a. Pk will get its turn after Pj can enter CS 10 times.

- ☐ b. Pk enters CS after Pj's first entry into CS. The remaining 9 entries of Pj into CS can happen only after Pj makes its entry into CS.

- ☐ c. Either of Pj or Pk might enter CS first. However, the last 9 entries of Pj into CS can happen only after Pj makes its entry into CS.

- ☐ d. The single entry of Pk into CS can be first or second or third or...... or 11th among the total 11 requests raised in the system

Your answer is incorrect.

The correct answer is:
Pk enters CS after Pj's first entry into CS. The remaining 9 entries of Pj into CS can happen only after Pj makes its entry into CS.

◄ Project Final Submission

Jump to... ⇕