Started on Thursday, 31 March 2022, 4:00 PM
State Finished
Completed on Thursday, 31 March 2022, 4:10 PM
Time taken 10 mins 3 secs
Grade 42.00 out of 50.00 (**84**%)

Information

After the theory part, two additional questions will be presented.

True or False questions (2 points each question)

Question **1**

Correct

Mark 2.00 out of 2.00

Concurrency is possible in Uniprocessor systems

Select one:

True

False

The correct answer is 'True'.

Question **2**

Correct

Mark 2.00 out of 2.00

Peterson's algorithm is a hardware-based solution to guarantee mutual exclusion.

Select one:

True

False

The correct answer is 'False'.

Question **3**

Correct

Mark 2.00 out of 2.00

In message passing, a solution based on mailboxes uses direct addressing

Select one:

True

False

The correct answer is 'False'.

Question **4**

Correct

Mark 2.00 out of 2.00

A deadlock avoidance mechanism requires knowledge of future process requests

Select one:

True

False

The correct answer is 'True'.

Question **5**

Correct

Mark 2.00 out of 2.00

In deadlock avoidance, the solution is executed after assigning the resources to a process.

Select one:

True

False

The correct answer is 'False'.

Question **6**

Correct

Mark 2.00 out of 2.00

A deadlock occurs when two processes request the same resources in the same order at the same time

Select one:

True

False

The correct answer is 'False'.

Information

Simple Choice questions (4 points each question)

Question **7**

Incorrect

Mark 0.00 out of 4.00

The OS needs to be concerned about cooperation by sharing when the processes are

Select one:

a. Indirectly aware of each other

b. Unaware of each other

c. Directly aware of each other

d. None of the above

The correct answer is: Indirectly aware of each other

Question **8**

Correct

Mark 4.00 out of 4.00

Select the option that is not a condition for a deadlock

Select one:

a. Mutual Exclusion

b. Hold-and-Wait

c. No Pre-emption

d. Circular Wait

e. None of the above

The correct answer is: None of the above

Question **9**

Correct

Mark 4.00 out of 4.00

A situation in which a runnable process is overlooked indefinitely by the scheduler is:

Select one:

a. Mutual Exclusion

b. Deadlock

c. Livelock

d. Racing condition

e. None of the above

The correct answer is: None of the above

Question **10**

Correct

Mark 4.00 out of 4.00

Select the value that you must use to initialize a mutex semaphore

Select one:

a. 0

b. N

c. 1

d. None of the above

The correct answer is: 1

Question **11**

Incorrect

Mark 0.00 out of 4.00

In the deadlock detection algorithm, if all processes are marked, then:

Select one:

a. All processes are deadlocked

b. No deadlock was detected

c. The algorithm has not started its execution

d. None of the above

The correct answer is: No deadlock was detected

Question **12**

Correct

Mark 4.00 out of 4.00

Select the matrix of the Banker's algorithm that is equal to the matrix Q of the deadlock detection algorithm

Select one:

a. Matrix A

b. Matrix Q

c. Matrix C - A

d. None of the above

The correct answer is: Matrix C - A

Information

Given the following code, determine a) the number of critical sections; and b) the shared resource(s) protected by the critical section(s) in the following code. (14 points)

```
static int tunnelStatus=0;
static pthread_mutex_t mu;
pthread_mutex_init(&mu, NULL);

void* tunnel(void* arg)
{
    int status;
    while (1)
    {
        sleep(5);
        pthread_mutex_lock(&mu);
        status = tunnelStatus;
        tunnelStatus = 0;
        pthread_mutex_unlock(&mu);
        sleep(5);
        pthread_mutex_lock(&mu);
        tunnelStatus = -1*status;
        pthread_mutex_unlock(&mu);
    }
}
```

Question **13**

Correct

Mark 5.00 out of 5.00

Number of critical sections

Answer: 2

The correct answer is: 2

Question **14**

Correct

Mark 9.00 out of 9.00

Shared Resource(s) controlled by the critical section:

(this is an all-or-nothing question)

Select one or more:

a. status

b. mu

c. tunnelStatus

d. sleep(5)

The correct answer is: tunnelStatus

◄ Programming Question 2

Jump to...

Banker's Algorithm Question ►