Quiz 1

Return to Assessment List

Part 1 of 2 4.0 / 4.0 Points

Question 1 of 5 1.0

1.0 Points

Managing what is in memory and when is the responsibility of the running process

○ True

✓ ● False

Answer Key: False

Question 2 of 5 1.0

1.0 Points

Which of the following is not a factor to consider when deciding which storage medium to use

○ A. Volatility

○ B. Cost

○ C. Speed

✓ ● D. Weight

Answer Key: D

Question 3 of 5 1.0

1.0 Points

To prevent a process from running too long, the operating system uses a ____ to limit CPU time

○ A. DMA

○ B. Switch

○ C. Cache

✓ ● D. Timer

Answer Key: D

Question 4 of 5 1.0

1.0 Points

Main memory is an example of Nonvolatile storage (NVS)

○ True

✓ ● False

Answer Key: False

Part 2 of 2 1.0 / 1.0 Points

Question 5 of 5 1.0

1.0 Points

Which of the following is not a service commonly provided by an operating system?

○ A. Process communication

○ B. I/O operations

○ C. Error detection

✓ ● D. Code compilation

Answer Key: D

Quiz 2

Return to Assessment List

Part 1 of 3 1.0 / 1.0 Points

Question 1 of 5 1.0

Sites

Which of the following is not a component of a process

○ A. Heap

✓ ● B. These are all components of a process

○ C. Stack

○ D. Text

Answer Key: B

Part 2 of 3 1.0 / 1.0 Points

Question 2 of 5 1.0

1.0 Points

A context switch consumes CPU time

✓ ● True

○ False

Answer Key: True

Part 3 of 3 3.0 / 3.0 Points

Question 3 of 5 1.0

1.0 Points

A parent and child process always share the same block of memory

○ True

✓ ● False

Answer Key: False

Question 4 of 5 1.0

1.0 Points

A parent process must wait for its child processes to finish before it can execute instructions.

○ True

✓ ● False

Answer Key: False

Question 5 of 5 1.0

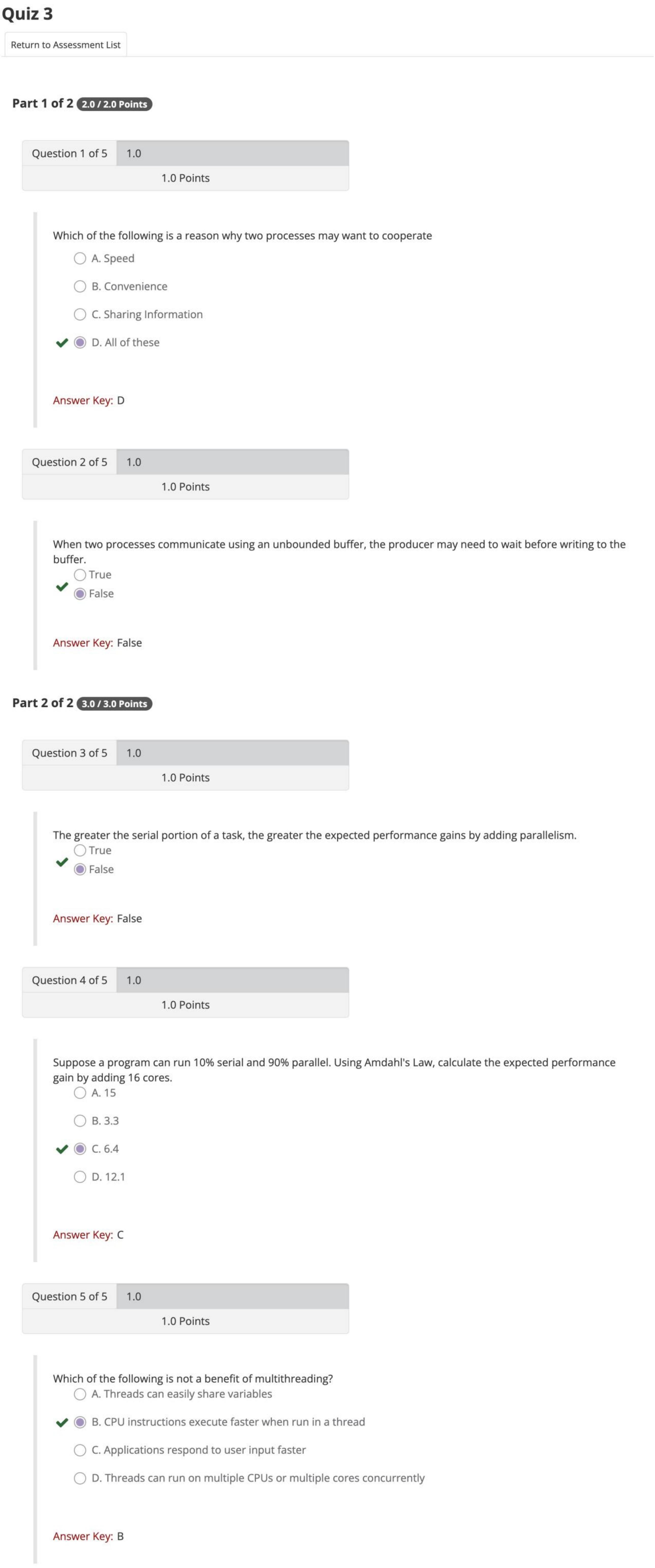
1.0 Points

If a program declares a variable before a `fork()`, the child and the parent can communicate with one another using that variable.

○ True

✓ ● False

Answer Key: False



Quiz 3

Part 1 of 2 2.0 / 2.0 Points

Question 1 of 5	1.0
	1.0 Points

Which of the following is a reason why two processes may want to cooperate

○ A. Speed

○ B. Convenience

○ C. Sharing Information

✓ ● D. All of these

Answer Key: D

Question 2 of 5	1.0
	1.0 Points

When two processes communicate using an unbounded buffer, the producer may need to wait before writing to the buffer.

○ True

✓ ● False

Answer Key: False

Part 2 of 2 3.0 / 3.0 Points

Question 3 of 5	1.0
	1.0 Points

The greater the serial portion of a task, the greater the expected performance gains by adding parallelism.

○ True

✓ ● False

Answer Key: False

Question 4 of 5	1.0
	1.0 Points

Suppose a program can run 10% serial and 90% parallel. Using Amdahl's Law, calculate the expected performance gain by adding 16 cores.

○ A. 15

○ B. 3.3

✓ ● C. 6.4

○ D. 12.1

Answer Key: C

Question 5 of 5	1.0
	1.0 Points

Which of the following is not a benefit of multithreading?

○ A. Threads can easily share variables

✓ ● B. CPU instructions execute faster when run in a thread

○ C. Applications respond to user input faster

○ D. Threads can run on multiple CPUs or multiple cores concurrently

Answer Key: B

Quiz 4

Return to Assessment List

Part 1 of 2 1.0 / 1.0 Points

Question 1 of 5	1.0
	1.0 Points

In a nonpreemptive scheduling scheme, the next process to run is

✓ ● A. The next process in the queue

○ B. The process in the queue with the highest priority

○ C. A randomly selected process

○ D. The process in the queue with the shortest run time

Answer Key: A

Part 2 of 2 4.0 / 4.0 Points

Question 2 of 5	1.0
	1.0 Points

One drawback to Priority scheduling is

○ A. Longer average waiting time compared to most other scheduling algorithms

○ B. Process priority cannot change

○ C. All of these

✓ ● D. The potential for starvation

Answer Key: D

Question 3 of 5	1.0
	1.0 Points

In Round-Robin CPU scheduling, if there are 10 processes in the ready queue and the time quantum is 3ms, then no process waits more than

○ A. None of these

○ B. 20ms

○ C. 30ms

✓ ● D. 27ms

Answer Key: D

Question 4 of 5	1.0
	1.0 Points

Consider the following processes in the ready queue in the following order with the following CPU burst times

Process	Burst time (milliseconds)
P1	15
P2	2
P3	3

Match the following scheduling algorithms with the following order of processes

A. P1, P2, P3
B. P3, P2, P1
C. P2, P3, P1
D. P1, P2, P3, P1

✓ A ▾ 1. FCFS

✓ C ▾ 2. SJF

✓ B ▾ 3. LCFS

✓ D ▾ 4. RR (Quantum 10)

Answer Key: 1:A, 2:C, 3:B, 4:D

Question 5 of 5	1.0
	1.0 Points

In Multilevel queue scheduling, which of the following is not true?

✓ ● A. Processes can move between the queues

○ B. Starvation is possible

○ C. Each queue is assigned a priority level

○ D. Different queues can use different scheduling algorithms

Answer Key: A

Quiz 5

Return to Assessment List

Part 1 of 2 1.0 / 1.0 Points

Question 1 of 5	1.0
1.0 Points	

To balance tasks across multicores, an operating system may employ which strategy?

○ A. Periodically check for cores with too many tasks and push some of those tasks to other cores

✓ ● B. Either strategy could be used

○ C. Periodically check for cores that have too few tasks and pull some tasks from other cores

Answer Key: B

Part 2 of 2 2.0 / 4.0 Points

Question 2 of 5	0.0
1.0 Points	

Shared data that is always read-only does not necessarily need to be used in a critical section

○ True

✗ ● False

Answer Key: True

Feedback: If the data is truly read only for all processes, then it does not need to be used in a critical section

Question 3 of 5	1.0
1.0 Points	

Which of the following is not part of the general structure of a process with a critical section

✓ ● A. All of these are elements of a process with a critical section

○ B. Entry section

○ C. Exit section

○ D. Remainder section

Answer Key: A

Question 4 of 5	1.0
1.0 Points	

Suppose two processes require access to the same resource. If one process secures the resource first, the other process will fail.

○ True

✓ ● False

Answer Key: False

Question 5 of 5	0.0
1.0 Points	

Mutex locks and semaphores are identical concepts. Programmers choose one or the other as a matter of style.

● True

✗ ○ False

Answer Key: False

Quiz 6

Return to Assessment List

Part 1 of 1 5.0 / 5.0 Points

Question 1 of 5 1.0

1.0 Points

If a process to detect deadlocks is not run often enough, deadlocks are more likely to occur and it will be more difficult to undo them.

✓ ● True

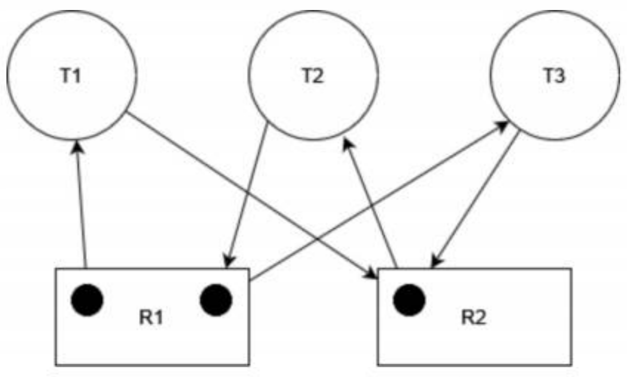
○ False

Answer Key: True

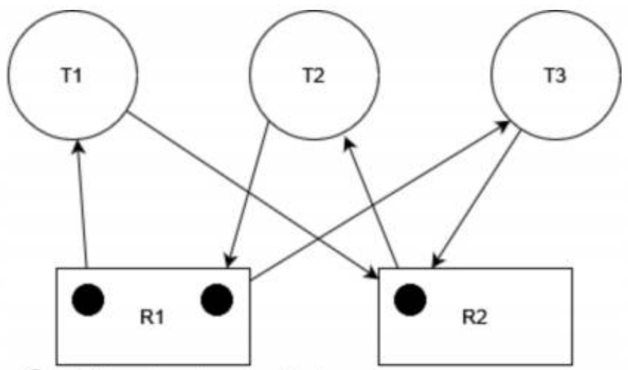
Question 2 of 5 1.0

1.0 Points

Consider the following resource allocation graph:



Which of the following statements is true about this graph



○ A. There is not a deadlock

○ B. There is a deadlock and only removing T3 would remove a deadlock

✓ ● C. There is a deadlock and removing T1, T2, or T3 would remove a deadlock

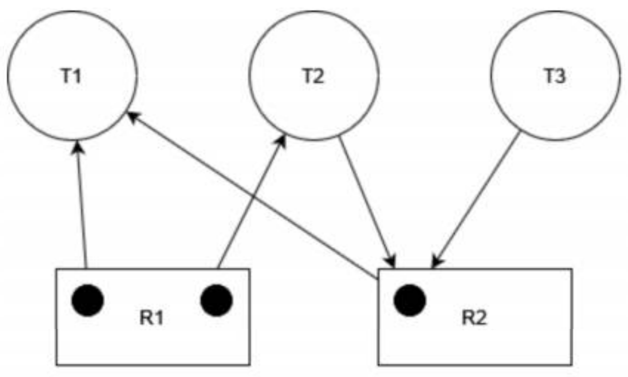
○ D. There is a deadlock and only removing T1 would remove a deadlock

Answer Key: C

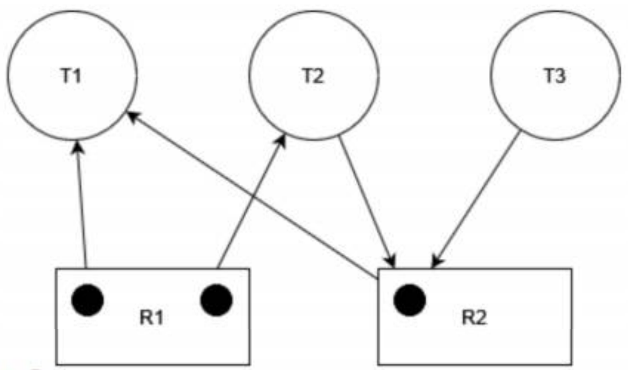
Question 3 of 5 1.0

1.0 Points

Consider the following resource allocation graph:



Which of the following statements is true about this graph



✓ ● A. There is not a deadlock

○ B. There is a deadlock and removing T1 would remove a deadlock

○ C. There is a deadlock and removing T1, T2, or T3 would remove a deadlock

○ D. There is a deadlock and removing T3 would remove a deadlock

Answer Key: A

Question 4 of 5 1.0

1.0 Points

If a resource allocation graph shows no cycles, this is an indication that there is not a deadlock.

✓ ● True

○ False

Answer Key: True

Question 5 of 5 1.0

1.0 Points

If an operating system wishes to prevent a deadlock, the easiest characteristic of a deadlock to prevent is mutual exclusion.

○ True

✓ ● False

Answer Key: False