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Operating Systems
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Example Test: Lesson 3

Answer the following questions:

1. Which of the following is correct? ____ (1 point)
 - a. A program is the same as a process but it requires RAM and CPU
 - b. A program is the same as a process but it requires disk space
 - c. A program is the same as a process but it is dynamic
 - d. A program is the same as a process but it is static
 - e. None of these

2. Which of the following is correct? ____ (1 point)
 - a. The text section of a process is the program stack
 - b. The text section of a process is the program counter
 - c. The text section of a process is the program code
 - d. The text section of a process is the program data section
 - e. None of these

3. Which of the following is correct? Two processes may be ____ (1 point)
 - a. Associated to the same program and with the same program counter
 - b. Associated to different programs but with the same program counter
 - c. Associated to different programs but with the same stack
 - d. Associated to the same programs but with different same program counter
 - e. None of these

4. Which of the following is correct? ____ (1 point)
 - a. A process can pass directly from ready state to terminated
 - b. A process can pass directly from waiting state to terminated
 - c. A process can pass directly from new state to terminated
 - d. A process can pass directly from running state to terminated
 - e. None of these

5. Which of the following is correct? ____ (1 point)
- a. Only one process can be running on any processor at any instant
 - b. More than one process can be running on any processor at any instant
 - c. Exactly two processes can be running on any processor at any instant
 - d. The number of processes running on any processor at any instant depends on the type of OS.
 - e. None of these

6. Which of the following is correct? ____ (1 point)
- a. The process control block does not include any program counters
 - b. The process control block includes the program counter of the program
 - c. The process control block includes the program counter of the process
 - d. The process control block includes the program counter of the CPU
 - e. None of these

7. Which of the following is correct? ____ (1 point)
- a. The OS is responsible only for saving the state of the process
 - b. The OS is responsible only for restoring the state of the process
 - c. The OS saves and restores the state of the process
 - d. The OS is not responsible for the state of the process, processes deal with it
 - e. None of these

8. Which of the following is correct? Time-sharing means ____ (1 point)
- a. The CPU is frequently switched among processes so that users can always interact with at least one program at a time
 - b. The CPU is frequently switched among processes so that all processes can be executed at the same time
 - c. The CPU is frequently switched among processes so that all processes run the same amount of CPU
 - d. The CPU is frequently switched among processes so that all processes run exactly the same amount of seconds
 - e. None of these

9. Briefly describe the following ____ (2 points)

How is performed CPU switch from process to process?

10. Which of the following is correct? The long-term scheduler: ____ (1 point)
- a. Selects which processes should be brought into the device queue
 - b. Selects which processes should be brought into the I/O queue
 - c. Selects which processes should be brought into the job queue

- d. Selects which processes should be brought into the terminal queue
 - e. None of these
11. Which of the following is correct? The short-term scheduler ____ (1 point)
- a. Selects which process should be executed next and allocates CPU
 - b. Selects which process should be executed next and allocates RAM
 - c. Selects which processes should be brought into the ready queue
 - d. Selects which processes should be brought into the device queue
 - e. None of these
12. Which of the following is correct? The primary distinction between long-term and short-term schedulers is: ____ (1 point)
- a. the frequency of their execution
 - b. that one allocates RAM and the other CPU
 - c. that one allocates devices and the other CPU
 - d. that one deals with queues and one with OS
 - e. none of these
13. Which of the following is correct? Context switch is: ____ (1 point)
- a. Useful since it makes CPU rest from time to time
 - b. Useful since it makes CPU deal with more processes at the same time
 - c. Useful since it makes OS deal with more processes at the same time
 - d. Useful since it makes CPU decrease the temperature
 - e. None of these
14. Which of the following is correct? Process cooperation: ____ (1 point)
- a. Usually slows down the computation
 - b. Usually speeds up the computation
 - c. Never speeds up the computation
 - d. Speeds up only if you have multiple processes
 - e. None of these
15. Which of the following is correct? Direct communication is performed: ____ (1 point)
- a. Through mail-boxes
 - b. Only when mail-boxes are full
 - c. Only when mail-boxes are not available
 - d. Through messages when producer-consumer fails
 - e. Through exchange of messages between processes
 - f. None of these
16. Which of the following is correct? Sockets are ____ (1 point)
- a. IP addresses
 - b. Endpoints between threads
 - c. Endpoints between hosts

- d. Endpoints for communication in internet
- e. None of these

17. Which of the following is correct? Remote Procedure Calls: ____ (1 point)

- a. Abstract calls between programs
- b. Abstract calls between machines
- c. Abstract calls between processes on networked systems
- d. Abstract calls between processes on the same machine
- e. None of these

18. Which of the following is correct? The Remote Method Invocation is: ____ (1 point)

- a. A Java procedure for client-server programs
- b. A Java mechanism for invoking remote programs
- c. A Java mechanism for invoking methods on remote objects
- d. A Java mechanism for exchanging data over the internet
- e. All a, b, c, d are correct
- f. None of a, b, c, d is correct

19. Which of the following is correct? RPC and RMI are: ____ (1 point)

- a. The same mechanism
- b. RPC is more powerful than RMI
- c. RPC is similar but runs only on Linux
- d. RMI is similar but only related to Java virtual machines
- e. None of these

20. Which of the following is true? *Localhost* stands for: ____ (1 point)

- a. The local CPU
- b. The local OS
- c. The local machine with address 127.1.1.1
- d. The local machine with address 127.0.0.1
- e. None of these