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Operating Systems
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Example Test: Lesson 2

Reply to the following questions:

1. Which of the following is true? ___ (1 point)
   a. Process communication is not part of the OS services
   b. Process communication is part of the OS services but each process must deal with it
   c. Process communication has never been part of OS services
   d. Process communication is part of the OS and in the case of message passing the OS is responsible for moving packets.
   e. None of these

2. Which of the following is true? ____ (1 point)
   a. Error detection is not an OS service since the CPU deals with it
   b. Error detection is not an OS service since the hardware deals with it
   c. Error detection is an OS service but hardware deals with it
   d. Error detection if an OS service and the OS deals with it
   e. None of these

3. Which of the following is true? A command interpreter is____ (1 point)
   a. A specific commercial program that deals with commands
   b. A complex program that makes complex calculations
   c. A kernel or system program that allows direct command entry
   d. An editor for writing commands in the OS
   e. None of these

4. Which of the following is true? ____ (1 point)
   a. A shell is a program in Windows XP
   b. A shell is a program for DOS commands in Windows XP
   c. A shell is a command-line interpreter
   d. A shell is a programming language interepreter

e. None of these

5. Which of the following are true? An API is: ____ (1 point)
   a. An interface from software to hardware
   b. An interface for programmers to develop applications
   c. An interface for microprogramming
   d. A collection of system programs that Windows or Linux expose
   e. None of these

6. Which of the following is true? ____ (1 point)
   a. Win32 is the Linux and Windows common API
   b. Win32 is the Windows API but it works also for Linux
   c. Win32 is the Linux API but it works also for Windows
   d. Win32 is the Windows API and it works only with this OS
   e. None of these

7. Which of the following is true? ____ (1 point)
   a. The API functions are implemented by calling kernel functions
   b. The API functions are implemented by calling user functions
   c. The API functions are implemented by calling system programs
   d. The API functions are implemented by calling low-level hardware functions
   e. None of these

8. Which of the following is true? ____ (1 point)
   a. System calls do not have parameters, everything is on the RAM
   b. System calls do not have parameters, everything is on the disk
   c. System calls do not have parameters, everything is on the registers
   d. System calls do have parameters but everything is on the CPU
   e. None of these

9. Briefly describe the following (max three rows): ____ (2 points)

   How are parameters passed in a system call?

10. Which of the following is true? ____ (1 point)
   a. System programs are kernel functions
   b. System programs are system calls
   c. System programs are not system calls but are kernel programs
   d. System programs are OS program utilities
   e. None of these

11. Which of the following is true? ____ (1 point)
    a. An OS is portable if you write it in assembly only
    b. An OS is portable if you write it in machine language
    c. An OS is portable if you write it in Intel and AMD language
    d. An OS is portable if you write it in high level language.
    e. None of these

12. Which of the following is true? ____ (1 point)
    a. An OS is slower if you write it in C++
    b. An OS is slower if you write it in any high level language
    c. An OS is slower if you write it in assembly
    d. An OS cannot be written in high level language
    e. None of these

13. Which of the following is true? ____ (1 point)
    a. Registers are faster than CPU
    b. CPU is faster than registers
    c. CPU is not faster than RAM
    d. Registers are faster than main memory

14. Which of the following is true? ____ (1 point)
    a. Caching is performed only at software level
    b. Caching is performed also at software level
    c. Caching is performed only at hardware level
    d. Caching is not performed at software level

15. Which of the following is true? ____ (1 point)
    a. MS-DOS was monolithic and every module was connected to the CPU
    b. MS-DOS was monolithic and every module could access hardware routines
    c. MS-DOS was monolithic and every module was connected to all the other modules.
    d. MS-DOS was monolithic and programs could access basic hardware routines
    e. None of these

16. Which of the following is true?____ (1 point)
    a. UNIX was highly modular initially
    b. UNIX had many modules divided among kernel and user
    c. UNIX consisted of system programs and the kernel
    d. UNIX was equal to DOS except that it was not monolithic
    e. None of these

17. Which of the following is true? In a layered approach: ____ (1 point)
    a. Every layer is connected to hardware
    b. Every layer knows all the layers through the kernel
    c. Every layer is software programs
    d. Every layer knows only three other layers

e. Every layer knows only two layers
f. None of these

18. Which of the following is true? The layered approach is: ____ (1 point)
    a. More efficient since every layer speeds up the process
    b. More efficient since every layer deals with its data
    c. More efficient since every layer is independent and data moves fast
    d. More efficient since no layer delays the others
    e. Highly efficient since if a layer is delayed then the others substitute it
    f. None of these

19. Which of the following is true? The microkernel approach is: ____ (1 point)
    a. A hybrid strategy between layered and monolithic approach
    e. A novel strategy where the CPU was communicating with the kernel
    d. A novel OS architecture where the communication was made possible through the CPU and the kernel
    e. A novel OS architecture where the communication was made possible through the message passing and the CPU
    f. A novel OS architecture where the communication was made possible through the message passing and the microkernel

20. Which of the following is true? The microkernel approach is: ____ (1 point)
    a. Faster since there exists no kernels
    b. Faster since users directly connect to microkernels
    c. Faster since the CPU directly executes the microkernel
    d. Faster since there is no overhead by the microkernel
    e. None of these

21. Which of the following is true? In a modular approach: ____ (1 point)
    a. Every module has a CPU assigned
    b. Every module is part of the kernel
    c. Every module functions independently and without the need of the kernel
    d. Every module is a separate OS
    e. Every module has a known interface for communicating with others.
    f. None of these

22. Which of the following is true? A virtual machine: ____ (1 point)
    a. Is a physical machine
    b. Is a conceptual hardware
    c. Is a software implementation of a CPU
    d. Is a software implementation of another machine
    e. Is a software implementation of another OS
    f. None of these

23. Which of the following is true? ____ (1 point)

a. System VMs are necessary to run Java programs under Windows and Linux
b. System VMs are necessary to run C++ and Java programs under Windows and Linux
c. System VMs are necessary to execute an OS within another OS
d. System VMs are necessary to run hardware in the absence of an OS
e. None of these

24. Which of the following is true? ____ (1 point)
a. .NET framework is an OS
b. .NET framework is a System VM where Windows XP runs
c. .NET framework is a System VM
d. .NET framework is an implementation of Microsoft programs
e. .NET framework is another System VM able to execute Common Language Runtime programs.
f. None of these.

25. Which of the following is true? Virtualization means: ____ (1 point)
a. Give the CPU to the guest OS
b. Give the RAM and the CPU to the host OS
c. Run multiple VMs on the same OS
d. Run multiple OSs on the same physical machine
e. None of these.