**Operating Systems Overview and Structure**

1. Which of the following refer to functions or programming features in an operating system that programmers can use for network links?
   A. Application software
   B. Application Program Interface (API)
   C. BASIC
   D. Client/server systems

2. Which of the following refers to a word processor, spreadsheet, database, or computer game?
   A. Code
   B. Operating systems
   C. Device driver
   D. Application software

3. Which of the following is a computing style frequently employed by large systems?
   A. Compact processing
   B. Central processing
   C. Batch processing
   D. Device processing

4. Which of the following refers to a low-level computer programming code that conducts basic hardware and software communications inside the computer?
   A. BIOS
   B. Both A and B
   C. Preemptive multitasking
   D. None of the above

5. Which of the following refers to a computer hardware and software design in which different portions of an application execute on different computers?
   A. Server/server systems
   B. Cooperative systems
   C. Client/server systems
   D. Central systems

6. Which of the following is a computer operating system that is typically installed on a PC type of computer used by one person at a time?
   A. Batch operating system
   B. Multi-user operating system
   C. Desktop operating system
   D. Personal Digital operating system

7. Which of the following is computer software designed to provide the operating system and application software access to specific computer hardware?
   A. BIOS
   B. Device driver
   C. Central processing unit
   D. None of the above

8. Which of the following refers to the generic computer code used to control many low-level computer hardware and software functions?
   A. SOD
   B. ODS
   C. DOS

D. All of the above

9. Which of the following refers to the physical devices in a computer that you can touch, such as the CPU, disk drive, etc?
    A. Hardware
    B. Both A and B
    C. Software
    D. None of the above

10. ------------- is the information taken in by a computer device to handle or process, such as characters typed on a keyboard.
    A. Input
    B. Both A and B
    C. Output
    D. None of the above

11. Which of the following refers to an essential set of programs and computer code built into a computer operating system to control processor, disk, memory and other functions central to the basic operation of the computer?
    A. BIOS
    B. Kernel
    C. Input/Output
    D. All of the above

12. Which of the following refers to a solid-state electronic device that controls the major computer functions and operations?
    A. Microprocessor
    B. Multi-use processor
    C. Macroprocessor
    D. Preemptive processor

13. Which of the following refers to a technique that allows a computer to run two or more programs at the same time?
    A. Unitasking
    B. Multitasking
    C. Multi-user environment
    D. Real-time tasking

14. Which of the following is a computer hardware and software system designed to service multiple users who access the computer hardware and software applications simultaneously?
    A. Multi-user
    B. Multiple assistant
    C. Multitasking
    D. All of the above

15. Which of the following refers to an environment that supports multi-user access to a computer's hardware and software facilities?
    A. Single-user environment
    B. Both A and B
    C. Multi-user environment
    D. None of the above

16. Which of the following refers to computer software code that interfaces with user application software and the computer's BIOS to allow the applications to interact with the computer hardware?
    A. CMOS
    B. Operating system
    C. BIOS
    D. RAM
17. Which of the following is a small hand-held computer used as a personal organizer?
    A. PDA
    B. DAP
    C. ADP
    D. None of the above
18. Which of the following is a computer hardware and software design for multitasking applications in which the operating system retains control of the computer at all times?
    A. Cooperative multitasking
    B. Both A and B
    C. Preemptive multitasking
    D. None of the above
19. Which of the following refers to an operating system that interacts directly with the user and responds in current time with required information?
    A. RM systems
    B. Resource systems
    C. Cooperative systems
    D. Real-time systems
20. Which of the following is special memory that contains information that is NOT erased when the power is removed from the memory hardware?
    A. RAM
    B. CMOS
    C. ROM
    D. None of the above
21. Which of the following refer to programs that manage computer memory and CPU use?
    A. Resource managers
    B. Microprocessors
    C. Macroprocessors
    D. All of the above
22. Which of the following is a computer processing cycle in which each operation is submitted, acted upon, and the results displayed before the next process is started?
    A. Asynchronous processing
    B. Symmetric processing
    C. Time-shared processing
    D. Sequential processing
23. Which of the following is a computer operating system usually found on more powerful PC-based computers than those used for desktop operating systems?
    A. Client operating systems
    B. Server operating systems
    C. Single task operating systems
    D. None of the above

24. Which of the following is a computer hardware and software design that can manage ONLY one task at a time?
 A. Multitasking
 B. Both A and B
 C. Single tasking
 D. None of the above

25. Which of the following refers to a hardware and software system that enables ONLY one user to access its resources at a particular time?
 A. Central user
 B. Compact user
 C. Guest user
 D. Single user

26. Which of the following is a single tasking computer hardware and software design that permits the user or application software to switch among multiple single-tasking operations?
 A. Sequential tasking
 B. Both A and B
 C. Task switching
 D. None of the above

27. Which of the following refers to a central computing system, such as a mainframe, that is used by multiple users and applications simultaneously?
 A. Compact basic system
 B. Time-sharing system
 C. Task switching system
 D. Batch system

28. ------------- is information sent out by a computer device after that information is handled or processed.
 A. Output
 B. Both A and B
 C. Input
 D. None of the above

29. Which part of the operating system is unique to each operating system?
 A. User Command Interface
 B. Memory Manager
 C. Process Manager
 D. File Manager

30. The ------------- must receive the electrical impulses from the keyboard, decode the keystrokes to form the command, and send the command to the User Command Interface, where the Processor Manager validates the command.
 A. Device Manager
 B. Keyboard Manager
 C. File Manager
 D. Memory Manager

31. ------------- include(s) every peripheral unit in the system such as printers, disk drives, CD drives, magnetic tape devices, keyboards, DVD players, modems, and so on.
 A. The CPU
 B. Processors

C. I/O Devices

D. Secondary components

32. Which of the following requires a real-time system?

    A. space flights

    B. telephone switching

    C. airport traffic control

    D. All of the above

33. A hybrid system is a combination of the ------------- systems.

    A. batch and interactive

    B. interactive and real-time

    C. batch and real-time

    D. real-time and general-purpose

34. What type of system is designed to perform one specific function?

    A. Real-time

    B. Embedded

    C. Interactive

    D. Hybrid

35. What is the name for the core part of operating system software?

    A. manager

    B. core

    C. center

    D. kernel

36. For what period were vacuum tube computers used?

    A. 1920s-1930s

    B. 1940-1955

    C. 1935-1945

    D. 1945-1960

37. What was one of the main improvements of second-generation computers?

    A. job scheduling

    B. improved user interface

    C. better debugging

    D. more structured logic for programs

38. The most common mechanism for implementing multiprogramming was the introduction of the ------------- concept, which is when the CPU is notified of events needing operating systems services.

    A. paging

    B. messaging

    C. sharing

    D. interrupt

39. Which word is used to indicate that a program is permanently held in ROM (read only memory), as opposed to being held in secondary storage?

    A. hardware

    B. software

    C. firmware

    D. shareware

40. What is a disadvantage of a distributed operating system?

    A. user has to monitor which computer is being controlled

B. users have to worry about scheduling each processor rather than dealing with uniprocessor system

C. more complex processor-scheduling algorithms

D. All of the above

41. In which of the following are processors placed at remote locations and are connected to each other via telecommunication devices?

A. multiprocessing

B. distributed processing

C. multithreading

D. shared processing

42. Multiprogramming is

A. the concurrent execution of two or more computer programs on one computer system

B. the concurrent execution of one computer program on two or more computer systems

C. the use of multiple languages with which to write computer programs

D. the use of two or more computer systems which are under the control of a single program

43. Ideally, the goal of all operating systems is to

A. use the resources of the system efficiently

B. give fair or equitable service to the users

C. both of the above

D. none of the above

44. What is an operating system?

A. interface between the hardware and application programs

B. collection of programs that manages hardware resources

C. system service provider to the application programs

D. all of the mentioned

45. What is the main function of the command interpreter?

A. to provide the interface between the API and application program

B. to handle the files in the operating system

C. to get and execute the next user-specified command

D. none of the mentioned

46. To access the services of the operating system, the interface is provided by the _____

A. Library

B. System calls

C. Assembly instructions

D. API

47. Which one of the following errors will be handle by the operating system?

A. lack of paper in printer

B. connection failure in the network

C. power failure

D. all of the mentioned

48. If a process fails, most operating system write the error information to a _____

A. new file

B. another running process

C. log file

D. none of the mentioned

49. The operating system is responsible for?
    A. bad-block recovery
    B. booting from disk
    C. disk initialization
    D. all of the mentioned
50. The operating system and the other processes are protected from being modified by an already running process because _____
    A. every address generated by the CPU is being checked against the relocation and limit registers
    B. they have a protection algorithm
    C. they are in different memory spaces
    D. they are in different logical addresses
51. The _____ presents a uniform device-access interface to the I/O subsystem, much as system calls provide a standard interface between the application and the operating system.
    A. Device drivers
    B. I/O systems
    C. Devices
    D. Buses
52. In real time operating system _____
    A. process scheduling can be done only once
    B. all processes have the same priority
    C. kernel is not required
    D. a task must be serviced by its deadline period
53. Hard real time operating system has _____ jitter than a soft real time operating system.
    A. equal
    B. more
    C. less
    D. none of the mentioned
54. For real time operating systems, interrupt latency should be _____
    A. zero
    B. minimal
    C. Maximum
    D. dependent on the scheduling
55. On systems where there are multiple operating system, the decision to load a particular one is done by _____
    A. process control block
    B. file control block
    C. boot loader
56. Whenever a process needs I/O to or from a disk it issues a _____
    A. system call to the operating system
    B. a special procedure
    C. system call to the CPU
    D. all of the mentioned
57. The _____ program initializes all aspects of the system, from CPU registers to device controllers and the contents of main memory, and then starts the operating system.

A. bootstrap
B. main
C. bootloader
D. rom

58. In Unix, which system call creates the new process?
A. create
B. fork
C. new

| 1. | B |
|---|---|
| 2. | D |
| 3. | C |
| 4. | A |
| 5. | C |
| 6. | C |
| 7. | B |
| 8. | C |
| 9. | A |
| 10. | A |
| 11. | B |
| 12. | A |
| 13. | B |
| 14. | A |
| 15. | C |

| 16. | B |
|---|---|
| 17. | A |
| 18. | C |
| 19. | D |
| 20. | C |
| 21. | A |
| 22. | D |
| 23. | B |
| 24. | C |
| 25. | D |
| 26. | C |
| 27. | B |
| 28. | A |
| 29. | A |
| 30. | A |

| 31. | C |
|---|---|
| 32. | D |
| 33. | A |
| 34. | B |
| 35. | D |
| 36. | B |
| 37. | A |
| 38. | D |
| 39. | C |
| 40. | C |
| 41. | B |
| 42. | A |
| 43. | C |
| 44. | D |
| 45. | C |

| 46. | B |
|---|---|
| 47. | D |
| 48. | C |
| 49. | D |
| 50. | A |
| 51. | A |
| 52. | D |
| 53. | C |
| 54. | B |
| 55. | C |
| 56. | A |
| 57. | A |
| 58. | B |