

1. \_\_\_\_ operating systems are designed primarily to maximize resource utilization.

- A) PC
- B) Handheld computer
- C) Mainframe
- D) Network

2. If a program terminates abnormally, a dump of memory may be examined by a \_\_\_\_ to determine the cause of the problem.

- A) module
- B) debugger
- C) shell
- D) control card

3. The \_\_\_\_\_ refers to the number of processes in memory.

- A) process count
- B) long-term scheduler
- C) degree of multiprogramming
- D) CPU scheduler

4. Signals can be emulated in windows through \_\_\_\_.

- A) asynchronous procedure calls
- B) local procedure calls
- C) remote procedure calls
- D) none of the above

5. \_\_\_\_ scheduling is approximated by predicting the next CPU burst with an exponential average of the measured lengths of previous CPU bursts.

- A) Multilevel queue
- B) RR
- C) FCFS
- D) SJF

6. A counting semaphore \_\_\_\_.

- A) is essentially an integer variable
- B) is accessed through only one standard operation
- C) can be modified simultaneously by multiple threads
- D) cannot be used to control access to a thread's critical sections

7. One necessary condition for deadlock is \_\_\_\_\_, which states that a resource can be released only voluntarily by the process holding the resource.

- A) hold and wait
- B) mutual exclusion
- C) circular wait
- D) **no preemption**

8. Absolute code can be generated for \_\_\_\_\_.

- A) **compile-time binding**
- B) load-time binding
- C) execution-time binding
- D) interrupt binding

9. In systems that support virtual memory, \_\_\_\_\_.

- A) virtual memory is separated from logical memory.
- B) virtual memory is separated from physical memory.
- C) physical memory is separated from secondary storage.
- D) **physical memory is separated from logical memory.**

10. A(n) \_\_\_\_\_ file is a sequence of functions.

- A) text
- B) **source**
- C) object
- D) executable

11. Transfers between memory and disk are performed a \_\_\_\_\_.

- A) byte at a time
- B) file at a time
- C) **block at a time**
- D) sector at a time

12. The SSTF scheduling algorithm \_\_\_\_\_.

- A) services the request with the maximum seek time
- B) **services the request with the minimum seek time**
- C) chooses to service the request furthest from the current head position
- D) None of the above

13. Low-level formatting \_\_\_\_\_.

- A) does not usually provide an error-correcting code
- B) is usually performed by the purchaser of the disk device
- C) is different from physical formatting
- D) divides a disk into sections that the disk controller can read and write

14. Swap space management \_\_\_\_\_.

- A) is a high-level operating system task
- B) tries to provide the best throughput for the virtual memory system
- C) is primarily used to increase the reliability of data in a system
- D) None of the above

15. A RAID structure \_\_\_\_\_.

- A) is primarily used for security reasons
- B) is primarily used to ensure higher data reliability
- C) stands for redundant arrays of inexpensive disks
- D) is primarily used to decrease the dependence on disk drives

16. Which of the following disk head scheduling algorithms does not take into account the current position of the disk head?

- A) FCFS
- B) SSTF
- C) SCAN
- D) LOOK

17. The location where Windows places its boot code is the \_\_\_\_\_.

- A) boot block
- B) master boot record (MBR)
- C) boot partition
- D) boot disk

18. What are the two components of positioning time?

- A) seek time + rotational latency
- B) transfer time + transfer rate
- C) effective transfer rate - transfer rate
- D) cylinder positioning time + disk arm positioning time

19. The \_\_\_\_ register of an I/O port can be written by the host to start a command or to change the mode of a device.

- A) status
- B) control
- C) data-in
- D) transfer

20. An interrupt priority scheme can be used to \_\_\_\_.

- A) allow the most urgent work to be finished first
- B) make it possible for high-priority interrupts to preempt the execution of a low priority interrupt
- C) defer the handling of low-priority interrupt without masking off all interrupts
- D) All of the above

21. DMA controllers \_\_\_\_.

- A) do not utilize an additional, special purpose, processor
- B) are a nonstandard component in PCs of today
- C) can steal memory access cycles from the main CPU
- D) can access main memory at the same time as the main CPU

22. A character-stream device \_\_\_\_.

- A) transfers data in blocks of bytes
- B) transfers data a byte at a time
- C) is a device such as a disk drive
- D) is similar to a random access device

23. \_\_\_\_ I/O accesses a block device as a simple array of blocks.

- A) Raw
- B) Stream
- C) Indirect
- D) Cooked

24. In the UNIX operating system, a domain is associated with the \_\_\_\_.

- A) user
- B) process
- C) procedure
- D) task

25. In MULTICS, the protection domains are organized in a \_\_\_\_\_.

A) star structure

B) linear structure

C) ring structure

D) directory structure

26. In an access matrix, the \_\_\_\_\_ right allows a process to change the entries in a row.

A) owner

B) copy

C) control.

D) switch

27. The \_\_\_\_\_ implementation of an access table consists of sets of ordered triples.

A) global table

B) access list for objects

C) lock-key mechanism

D) capability list

28. In capability lists, each object has a \_\_\_\_\_ to denote its type.

A) gate

B) tag

C) key

D) lock

29. Which of the following implementations of the access matrix is a compromise between two other implementations listed below?

- A) access list
- B) capability list
- C) global table
- D) lock-key

30. The most common method used by attackers to breach security is \_\_\_\_.

- A) masquerading
- B) message modification
- C) session hijacking
- D) phishing

31. A code segment that misuses its environment is called \_\_\_\_.

- A) a backdoor
- B) a trap door
- C) a worm
- D) a Trojan horse

32. Worms \_\_\_\_.

- A) use the spawn mechanism to ravage system performance
- B) can shut down an entire network
- C) continue to grow as the Internet expands
- D) All of the above

33. A denial of service attack is \_\_\_\_\_.

- A) aimed at gaining information
- B) aimed at stealing resources
- C) aimed at disrupting legitimate use of a system
- D) generally not network based

34. In a paired-password system, \_\_\_\_\_.

- A) the user specifies two passwords
- B) the computer supplies one part of a password and the user enters the other part
- C) passwords must contain equal amounts of numbers and digits paired together
- D) two users must enter their own separate password to gain access to the system

35. A \_\_\_\_\_ virus changes each time it is installed to avoid detection by antivirus software.

- A) polymorphic
- B) tunneling
- C) multipartite
- D) stealth