Operating System

1. Operating system:
    a. A program that acts as an intermediary between a user of a computer and the computer hardware.
    b. Decides between conflicting requests for efficient and fair resource use.
    c. Controls execution of programs to prevent errors and improper use of the computer.
    d. All the above.
2. A trap is
    a. caused by an error.
    b. caused by a user request.
    c. a software-generated interrupt.
    d. All the above.
3. Disk surface is logically divided into:
    a. Blocks.
    b. sectors
    c. tracks.
    d. None of the above.
4. Caching is
    a. copying information into larger storage system.
    b. copying information into faster storage system.
    c. copying information into inexpensive storage system.
    d. copying information into nonvolatile storage system.
5. Which of the following is correct:
    a. Interrupt transfers control to the interrupt service routine through the interrupt vector.
    b. Interrupt service routine includes the address of each service routine.
    c. Incoming interrupts are enabled while another interrupt is being processed.

d. Interrupt Handling need not to determine which type of interrupt has occurred.

6. The system needs to CPU scheduling when:
   a. A subset of total jobs in system is kept in memory.
   b. several jobs are ready to run at the same time.
   c. processes don't fit in memory.
   d. None of the above.
7. Management of I/O may includes:
   a. buffering
   b. attaching to device
   c. spooling
   d. All the above.
8. Which of the following is not one of system calls types:
   a. File management
   b. Device management
   c. User application error recovery
   d. Information maintenance
9. Which of the following is not a system goal of the operating system design:
   a. Convenient
   b. Easy to learn
   c. Efficient
   d. Easy to evolve
10. Which of the following is not correct:
   a. A virtual machine provides an identical interface to the underlying bare hardware.
   b. The virtual-machine concept provides complete protection of system resources.
   c. The virtual machine concept is simple and easy to implement.
   d. A virtual machine takes the layered approach to its logical conclusion.
11. Which of the following is not a process state:
   a. running

b. waiting

c. ready

d. None of the above.

12. Which of the following is a part of a process control block:

a. Process state

b. Program counter

c. CPU registers

d. All the above.

13. Ready queues

a. set of all processes in the system.

b. set of all processes residing in main memory and waiting to execute.

c. set of all processes waiting for an I/O device.

d. All the above.

14. Which of the following is not correct:

a. Short-term scheduler is invoked very frequently.

b. Long-term scheduler is invoked very frequently.

c. Medium-term scheduler is invoked when there is many processes need to enter the ready queue from different other queues.

d. None of the above.

15. Dispatch function involves:

a. switching context.

b. switching to user mode.

c. jumping to the proper location in the user program.

d. All the above.

16. The main target of CPU scheduling is to

a. Maximize throughput

b. Maximize turnaround time

c. Both of them

d. None of them

17. Which of the following scheduling algorithms is non-preemptive only:

a. FCFS scheduling

b. SJF scheduling

c. Round robin scheduling

d. None of them

18. Which of the following scheduling algorithms discriminate in favor of short processes:

a. FCFS scheduling

b. Round robin scheduling

c. SJF scheduling

d. All of them

19. Priority CPU scheduling is

a. Preemptive

b. Non-preemptive

c. Both of them

d. None of them

20. Which of the following scheduling algorithms could result in starvation:

a. FCFS scheduling

b. Priority scheduling

c. SJF scheduling

d. b and c

21. Assume the following set of processes in the ready queue with their arrival and burst time:

Process	Arrival Time	Burst Time
P_1	0.0	7
P_2	2.0	4
P_3	4.0	1
P_4	5.0	4

The average waiting time of them in case of applying SJF scheduling algorithm is:

a. 2

b. 3

c. 4

d. 5

22. Which of the following is not a necessary condition of the deadlock problem

a. Mutual exclusion

b. Hold and wait

c. Preemption

d. Circular wait

23. Regarding the deadlock problem, which of the following statements is not a correct:

a. No deadlocks occur if a system is in safe state

b. Deadlocks may be occur if a system is in unsafe state

c. A deadlock is exist if a system is in unsafe state

d. None of them

24. Logical and physical addresses are different in which of the following binding scheme.

a. Compile time binding

b. Load time binding

c. Execution time binding

d. All of them

25. In Worst-fit schema of contiguous allocation, the request is allocated to:

a. the first hole that is big enough.

b. the largest hole that is big enough.

c. the smallest hole that is big enough

d. Any of them