MCQ's for Operating Systems.

1. Which module gives control of the CPU to the process selected by the short-term scheduler?
   a) dispatcher
   b) interrupt
   c) scheduler
   d) none of the mentioned

2. The processes that are residing in main memory and are ready and waiting to execute are kept on a list called
   a) job queue
   b) ready queue
   c) execution queue
   d) process queue

3. The interval from the time of submission of a process to the time of completion is termed as
   a) waiting time
   b) turnaround time
   c) response time
   d) throughput

4. Which scheduling algorithm allocates the CPU first to the process that requests the CPU first?
   a) first-come, first-served scheduling
   b) shortest job scheduling
   c) priority scheduling
   d) none of the mentioned

5. In priority scheduling algorithm
   a) CPU is allocated to the process with highest priority
   b) CPU is allocated to the process with lowest priority
   c) equal priority processes cannot be scheduled
   d) none of the mentioned

6. In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of
   a) all process
   b) currently running process

c) parent process
d) init process

7. Time quantum is defined in
   a) shortest job scheduling algorithm
   b) round robin scheduling algorithm
   c) priority scheduling algorithm
   d) multilevel queue scheduling algorithm

8. Process are classified into different groups in
   a) shortest job scheduling algorithm
   b) round robin scheduling algorithm
   c) priority scheduling algorithm
   d) multilevel queue scheduling algorithm

9. In multilevel feedback scheduling algorithm
   a) a process can move to a different classified ready queue
   b) classification of ready queue is permanent
   c) processes are not classified into groups
   d) none of the mentioned

10. Which one of the following cannot be scheduled by the kernel?
    a) kernel level thread
    b) user level thread
    c) process
    d) none of the mentioned

11. Round robin scheduling falls under the category of :
    a) Non preemptive scheduling
    b) Preemptive scheduling
    c) None of these

12. With round robin scheduling algorithm in a time shared system,
    a) using very large time slices converts it into First come First served scheduling algorithm
    b) using very small time slices converts it into First come First served scheduling algorithm

c) using extremely small time slices increases performance
d) using very small time slices converts it into Shortest Job First algorithm

13. The portion of the process scheduler in an operating system that dispatches processes is concerned with :
    a) assigning ready processes to CPU
    b) assigning ready processes to waiting queue
    c) assigning running processes to blocked queue
    d) All of these

14. Complex scheduling algorithms :
    a) are very appropriate for very large computers
    b) use minimal resources
    c) use many resources
    d) All of these

15. The FIFO algorithm :
    a) first executes the job that came in last in the queue
    b) first executes the job that came in first in the queue
    c) first executes the job that needs minimal processor
    d) first executes the job that has maximum processor needs

16. The strategy of making processes that are logically runnable to be temporarily suspended is called :
    a) Non preemptive scheduling
    b) Preemptive scheduling
    c) Shortest job first
    d) First come First served

17. Scheduling is :
    a) allowing a job to use the processor
    b) making proper use of processor
    c) Both a and b
    d) None of these

18. There are 10 different processes running on a workstation. Idle processes are waiting for an input event in the input queue. Busy processes are scheduled with the Round-Robin timesharing method. Which out of the following quantum times is the best value for small response times, if the processes have a short runtime, e.g. less than 10ms ?

a) tQ = 15ms
b) tQ = 40ms
c) tQ = 45ms
d) tQ = 50ms

19. Orders are processed in the sequence they arrive if _____ rule sequences the jobs.
    a) earliest due date
    b) slack time remaining
    c) first come, first served
    d) critical ratio

20. Which of the following algorithms tends to minimize the process flow time ?
    a) First come First served
    b) Shortest Job First
    c) Earliest Deadline First
    d) Longest Job First

21. Under multiprogramming, turnaround time for short jobs is usually _____ and that for long jobs is slightly _____.
    a) Lengthened; Shortened
    b) Shortened; Lengthened
    c) Shortened; Shortened
    d) Shortened; Unchanged

22. Which of the following statements are true ? (GATE 2010)
    I. Shortest remaining time first scheduling may cause starvation
    II. Preemptive scheduling may cause starvation
    III. Round robin is better than FCFS in terms of response time
    a) I only
    b) I and III only
    c) II and III only
    d) I, II and III

23. A binary semaphore
    a)has the values one or zero
    b) is essential to binary computers
    c) is used only for synchronization
    d) is used only for mutual exclusion

24. In the multi-programming environment, the main memory consisting of _____ number of process.
    a) Greater than 100
    b) Only one
    c) Greater than 50
    d) More than one

25. In interactive environments such as time-sharing systems, the primary requirement is to provide reasonably good response time and in general, to share system resources equitably. In such situations, the scheduling algorithm that is most popularly applied is _____.
    a)Shortest Remaining Time Next (SRTN) Scheduling
    b)Priority Based Preemptive Scheduling
    c)Round Robin Scheduling
    d) None of the above

26. _____ does the job of allocating a process to the processor.
    a)Long term scheduler
    b) Short term scheduler
    c) Medium term scheduler
    d) Dispatcher

27. In a multithreaded environment _____.
    a) Each thread is allocated with new memory from main memory.
    b)) Main thread terminates after the termination of child threads.
    c) Every process can have only one thread.
    d)None of the above

28. Which of the following statement is not true?
    a) Multiprogramming implies multitasking
    b) Multi-user does not imply multiprocessing
    c) Multitasking does not imply multiprocessing
    d)Multithreading implies multi-user

29. In one of the deadlock prevention methods, impose a total ordering of all resource types, and require that each process requests resources in an increasing order of enumeration. This violates the _____ condition of deadlock
    a) Mutual exclusion
    b) Hold and Wait

c) Circular Wait
d) No Preemption

30. A thread is a _____ process.
    a) Heavy Weight
    b) Mutliprocess
    c) Inter Thread
    d) Light weight

31. In Priority Scheduling a priority number (integer) is associated with each process. The CPU is allocated to the process with the highest priority (smallest integer = highest priority). The problem of, Starvation? Low priority processes may never execute, is resolved by _____.
    a) Terminating the process.
    b) Aging
    c) Mutual Exclusion
    d) Semaphore

32. CPU Scheduling is the basis of _____ operating system
    a) Batch
    b) Real time
    c) Multiprogramming
    d) Monoprogramming

33. A major problem with priority scheduling is _____.
    a) Definite blocking
    b) Starvation
    c) Low priority
    d) None of the above

34. _____ Scheduler selects the jobs from the pool of jobs and loads into the ready queue.
    a) Long term
    b) Short term
    c) Medium term
    d) None of the above

35. Saving the state of the old process and loading the saved state of the new process is called _____.
    a) Context Switch
    b) State

c) Multi programming
d) None of the above

36. The term "Operating System" means _____.
    a) A set of programs which controls computer working
    b) The way a computer operator works
    c)Conversion of high-level language in to machine level language
    d) The way a floppy disk drive operates

37. A thread
    a)is a lightweight process where the context switching is low
    b) is a lightweight process where the context switching is high
    c) is used to speed up paging
    d) none of the above

38. Unix Operating System is an _____.
    a) Time Sharing Operating System
    b) Multi-User Operating System
    c) Multi-tasking Operating System
    d) All the Above

39. Information about a process is maintained in a _____.
    a) Stack
    b)Translation LookAside Buffer
    c) Process Control Block
    d) Program Control Block

40. The program is known as _____ which interacts with the inner part of called kernel.
    a) Compiler
    b) Device Driver
    c) Protocol
    d) Shell

41. Which of the following is not advantage of multiprogramming?
    a) Increased throughput
    b)Shorter response time
    c) Decreased operating system overhead
    d) Ability to assign priorities to jobs

42. In _____ OS, the response time is very critical.
    a)Multitasking
    b) Batch
    c)Online
    d)Real-time

43. An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is _____.
    a) FCFS scheduling algorithm
    b) Round robin scheduling algorithm
    c) Shortest job - first scheduling algorithm
    d) None of the above

44. Real time systems are _____.
    a) Primarily used on mainframe computers
    b) Used for monitoring events as they occur
    c)Used for program development
    d) Used for real time interactive users

45. Which technique was introduced because a single job could not keep both the CPU and the I/O devices busy?
    a)Time-sharing
    b) SPOOLing
    c) Preemptive scheduling
    d) Multiprogramming

46. Inter process communication can be done through _____.
    a) Mails
    b) Messages
    c) System calls
    d) Traps

47. CPU performance is measured through _____.
    a) Throughput
    b) MHz
    c) Flaps
    d) None of the above

48. Software is a program that directs the overall operation of the computer, facilitates its use and interacts with the user. What are the different types of this software ?

a) Operating system
b) Language Compiler
c) Utilities
d) All of the above

49. A _____ is a software that manages the time of a microprocessor to ensure that all time critical events are processed as efficiently as possible. This software allows the system activities to be divided into multiple independent elements called tasks.
a) Kernel
b) Shell
c) Processor
d) Device Driver

50. The primary job of the operating system of a computer is to _____.
a) Command Resources
b) Manage Resources
c) Provide Utilities
c) Be user friendly

51. With the round robin CPU scheduling in a time-shared system _____.
a) Using very large time slice degenerates in to first come first served algorithm
b) Using extremely small time slices improve performance
c) Using extremely small time slices degenerate in to last in first out algorithm
d) Using medium sized time slices leads to shortest request time first algorithm

52. Which of the following is a criterion to evaluate a scheduling algorithm?
a) CPU Utilization: Keep CPU utilization as high as possible.
b) Throughput: number of processes completed per unit time.
c) Waiting Time: Amount of time spent ready to run but not running.
d) All of the above

53. Which of the following is contained in Process Control Block (PCB)?
a) Process Number
b) List of Open files
c) Memory Limits
d) All of the Above

54. Super computers typically employ _____.
a) Real time Operating system

b) Multiprocessors OS
c) desktop OS
d) None of the above

55. Round robin scheduling is essentially the preemptive version of _____.
a) FIFO
b) Shortest job first
c) Shortest remaining
d) Longest time first

56. Let S and Q be two semaphores initialized to 1, where P0 and P1 processes the following statements wait(S);wait(Q); ---; signal(S);signal(Q) and wait(Q); wait(S);---;signal(Q);signal(S); respectively. The above situation depicts a _____ .
a) Semaphore
b) Deadlock
c) Signal
d) Interrupt

57. What is a shell ?
a) It is a hardware component
b) It is a command interpreter
c) It is a part in compiler
d) It is a tool in CPU scheduling

58. Which is not the state of the process ?
a)Blocked
b)Running
c)Ready
d) Privileged

59. The solution to Critical Section Problem is : Mutual Exclusion, Progress and Bounded Waiting.
a) The statement is false
b) The statement is true.
c) The statement is contradictory.
d) None of the above

60. The state of a process after it encounters an I/O instruction is _____.
a) Ready
b) Blocked/Waiting

c) Idle
d) Running

61. The number of processes completed per unit time is known as _____.
    a) Output
    b) Throughput
    c) Efficiency
    d) Capacity

62. _____ is the situation in which a process is waiting on another process, which is also waiting on another process ... which is waiting on the first process. None of the processes involved in this circular wait are making progress.
    a)Deadlock
    b)Starvation
    c)Dormant
    d)None of the above

63. A critical region
    a) is a piece of code which only one process executes at a time
    b) is a region prone to deadlock
    c) is a piece of code which only a finite number of processes execute
    d) is found only in Windows NT operation system

64. _____ is a high level abstraction over Semaphore.
    a) Shared memory
    b) Message passing
    c) Monitor
    d) Mutual exclusion