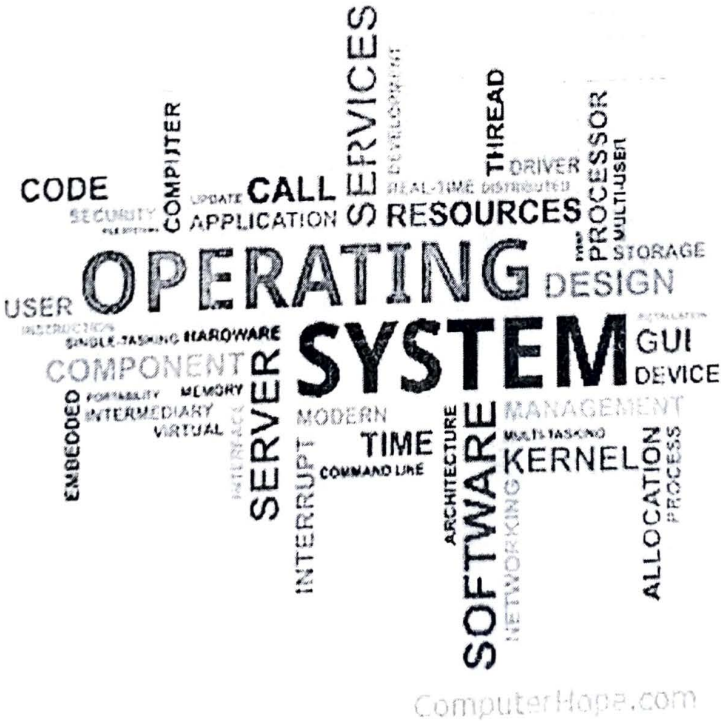
Operating System

Chapter 2

MCQ



part 2

(MCQs) Group 1.

1- **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

2- **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

3- **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

4- **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

5- **Time quantum is defined in**

a) shortest job scheduling algorithm
b) round robin scheduling algorithm
c) priority scheduling algorithm
d) multilevel queue scheduling algorithm

6- **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

7- **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

(MCQs) Group 2.

1- **Round robin scheduling falls under the category of :**
a) Non preemptive scheduling
b) Preemptive scheduling
c) All of the mentioned
d) None of the mentioned

2- **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

3- **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 the mentioned

4- **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

5- **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

6- **Scheduling is :**
a) allowing a job to use the processor
b) making proper use of processor
c) all of the mentioned
d) none of the mentioned

7- **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* time sharing 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

8- 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

9- 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

10- 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

11- Consider an arbitrary set of CPU-bound processes with unequal CPU burst lengths submitted at the same time to a computer system. Which one of the following process scheduling algorithms would minimize the average waiting time in the ready queue?

(A) Shortest remaining time first
(B) Round-robin with time quantum less than the shortest CPU burst
(D) Highest priority first with priority proportional to CPU burst length

12- Which of the following scheduling algorithms gives minimum average waiting time ?
a) FCFS
b) SJF
c) Round – robin
d) Priority

13- Which of the following statements are true ?
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

(MCQs) Group 3.

1- **The most optimal scheduling algorithm is :**

a) FCFS – First come First served
b) SJF – Shortest Job First
c) RR – Round Robin
d) None of the mentioned

2- **The real difficulty with SJF in short term scheduling is :**

a) it is too good an algorithm
b) knowing the length of the next CPU request
c) it is too complex to understand
d) none of the mentioned

3- **The FCFS algorithm is particularly troublesome for _____**

a) time sharing systems
b) multiprogramming systems
c) multiprocessor systems
d) operating systems

4- **Consider the following set of processes, the length of the CPU burst time given in milliseconds :**

Process	Burst time
P1	6
P2	8
P3	7
P4	3

Assuming the above process being scheduled with the SJF scheduling algorithm :

a) The waiting time for process P1 is 3ms
b) The waiting time for process P1 is 0ms
c) The waiting time for process P1 is 16ms
d) The waiting time for process P1 is 9ms

5- **Preemptive Shortest Job First scheduling is sometimes called :**

a) Fast SJF scheduling
b) EDF scheduling – Earliest Deadline First
c) HRRN scheduling – Highest Response Ratio Next
d) SRTN scheduling – Shortest Remaining Time Next

6- **An SJF algorithm is simply a priority algorithm where the priority is :**

a) the predicted next CPU burst
b) the inverse of the predicted next CPU burst
c) the current CPU burst
d) anything the user wants

7- **One of the disadvantages of the priority scheduling algorithm is that :**

a) it schedules in a very complex manner
b) its scheduling takes up a lot of time
c) it can lead to some low priority process waiting indefinitely for the CPU

8- A solution to the problem of indefinite blockage of low – priority processes is :

a) Starvation
b) Wait queue
c) Ready queue
d) Aging

9- Which of the following condition is required for deadlock to be possible?

a) mutual exclusion
b) a process may hold allocated resources while awaiting assignment of other resources
c) no resource can be forcibly removed from a process holding it
d) all of the mentioned

(MCQs) Group 4.

1- One advantage of threads over processes is that

a) Multiple threads share the same processor
b) Multiple threads share the same address space
c) individual threads may have different owners and hence may have different permission with respect to regions of memory

2- threads of the same task have the following characteristics

1- Share the same address space
2- Reduce context switching overhead
3- Are protected from each other the same way as processes

Which thread characteristic are correct

a) 1,2,3 b)1,2 c)1,3

3- Which scheduler maintains the degree of multiprogramming?

a) Short term scheduler b)long term scheduler
c)medium term scheduler

4- From waiting state , a process can only enter into ----------

a) running state b)ready state c)new state

5- which of the following is not a valid state transition for a process

a) blocked to running
b) blocked to ready.
c) Ready to running

6- The sate of a process stored in
a) Register b)Source code c)PCB

7- If the quantum time of round robin algorithm is very large , then it is equivalent to ----------
a) Priority b)FCFS c)SJF

8- Turnaround time is ----------
a) The interval from time of submission of process to time of completion
b) The sum of periods spent waiting in the ready queue
c) The sum of periods spent executing on the CPU

9- In ---------, threads are slow and inefficient
a) KLT b) ULT c)LWP

10- Which of the following instructions should be allowed only in the user mode in a multi-user system
a) Disable all interrupts
b) Read the time-of-day clock
c) Set the time-of-day clock
d) Send a character to the printer

11- Which of the following instructions should be allowed only in the kernel mode in a multi-user system? Briefly justify.
(a) Disable all interrupts.
(b) Read the time-of-day clock.
(c) Set the time-of-day clock.
(d) Send a character to the a printer device controller for printing.
(e) A,C,D

12- in ---------algorithm, there is poor average waiting time with similar jobs lengths
a) SJF. b) RR. C) priority

13- There can be more than one process in running state
a) True b)False

14- The switching of CPU between different processes is called ----------
a) Multiple switching b)Context switching
c) Swapping d)organizing

15- a process is moved from the running state to the blocked state
a) when it has completed execution
b) when a more appropriate process becomes ready to execute , and scheduler decide to preempt it
c) when it request a resource that is not currently available , but which will become available in future

16- Operating system operations are
a) interrupt and trap b)dual mode and timer
c)information management and communication

17- --------- support multiple user processes but only support one thread per process
a) Linux b)Solaris c)Unix

18- -------- uses thread libraries
a) User level thread b)Kernel level thread

19- The goal of batch systems algorithms
a) Maximize throughput b)Minimize response time
c)Meeting deadlines

20- In ---------- algorithm , user's share of CPU = (time since login/n).
a) Shortest job next b)Guaranteed c)Lottery

21- Consider the following statements about user level threads and kernel level threads. Which one of the following statement is FALSE?
(A) Context switch time is longer for kernel level threads than for user level threads.
(B) User level threads do not need any hardware support.
(C) Related kernel level threads can be scheduled on different processors in a multi-processor system.
(D) Blocking one kernel level thread blocks all related threads.

22- A Process is moved from the running state to the ready state
a. When it is ready to move to the next stage of execution
b. When the scheduler decides another process is more suitable for execution
c. When it has completed all input operations

23- Which of the following is FALSE about SJF ?

S1: It causes minimum average waiting time
S2: It can cause starvation

(A) Only S1
(B) Only S2
(C) Both S1 and S2
(D) Neither S1 nor S2

24- Which of the following scheduling algorithms may cause starvation?

a. First-come-first-served b. Round Robin c. Priority
d. Shortest process next e. Shortest remaining time first

(A) a, c and e
(B) c, d and e
(C) b, d and e
(D) b, c and d

25- Which of the following is not an optimization criterion in the design of a CPU scheduling algorithm?

(A) Minimum CPU utilization
(B) Maximum throughput
(C) Minimum turnaround time
(D) Minimum waiting time

26- Which of the following statements is not true for Multi Level Feedback Queue processor scheduling algorithm?

(A) Queues have different priorities
(B) Each queue may have different scheduling algorithm
(C) Processes are permanently assigned to a queue
(D) This algorithm can be configured to match a specific system under design

27- In which of the following scheduling criteria, context switching will never take place ?

(A) ROUND ROBIN
(B) Preemptive SJF
(C) Non-preemptive SJF
(D) Preemptive priority

28- Which of the following need not necessarily be saved on a context switch between processes?

(A) General purpose registers
(B) Translation lookaside buffer
(C) Program counter
(D) All of the above

29- Which of the following process scheduling algorithm may lead to starvation

a) FIFO
b) Round Robin
c) Shortest Job Next
d) None of the above

30- If the quantum time of round robin algorithm is very large, then it is equivalent to:

a) First in first out
b) Shortest Job Next
c) Lottery scheduling