**Bhuvesh Mittal**

**2210991450**

**G18**

# MCQs on CPU Scheduling Algorithms

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## First-Come, First-Served (FCFS) Scheduling

1. What is the main characteristic of FCFS scheduling?

   a) Processes are executed based on priority
   b) Processes are executed in the order they arrive
   c) Shorter jobs are executed first
   d) Processes are preempted based on time slice

2. Which of the following is a disadvantage of FCFS scheduling?

   a) Simple to implement
   b) Fair to all processes
   c) Convoy effect
   d) Low waiting time

3. In FCFS scheduling, if two processes arrive at the same time, how are they scheduled?

   a) Based on priority
   b) Based on shortest execution time
   c) In the order they are listed in the queue
   d) Randomly

4. What is the average waiting time for processes in FCFS scheduling?

   a) Always zero
   b) Depends on the order of arrival
   c) Equal to the burst time of the process
   d) Minimum for all processes

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**Shortest Job Next (SJN) Scheduling**

5. Shortest Job Next (SJN) scheduling is also known as:

   a) First-Come, First-Served
   b) Shortest Job First
   c) Round Robin
   d) Priority Scheduling

6. What is a major drawback of SJN scheduling?

   a) It is fair
   b) It can lead to starvation of longer processes
   c) It is simple to implement
   d) It minimizes waiting time

7. In SJN scheduling, how is the next process to be executed determined?

   a) By its arrival time
   b) By its priority level
   c) By its burst time
   d) By its completion time

8. If process A has a burst time of 4 ms and process B has a burst time of 2 ms, which will be executed first in SJN scheduling?

   a) Process A
   b) Process B
   c) Both simultaneously
   d) It depends on arrival time

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**Priority Scheduling**

9. In priority scheduling, how are processes selected for execution?

   a) By arrival time
   b) By the shortest burst time
   c) By priority level
   d) By their wait time

10. What can happen in a priority scheduling algorithm?

    a) Starvation of low-priority processes
    b) All processes are executed in order of arrival
    c) High-priority processes can be preempted
    d) It guarantees minimum waiting time

11. If two processes have the same priority, how are they scheduled in priority scheduling?

    a) Based on burst time
    b) Based on arrival time
    c) Randomly
    d) By their identifiers

12. Which of the following is a method to prevent starvation in priority scheduling?

    a) Aging
    b) FCFS
    c) Round Robin
    d) SJN

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**Shortest Remaining Time Scheduling**

13. Shortest Remaining Time (SRT) is a preemptive version of which scheduling algorithm?

    a) FCFS
    b) SJN
    c) Priority Scheduling
    d) Round Robin

14. In SRT scheduling, what happens if a new process arrives with a shorter remaining time than the currently running process?

    a) The current process continues
    b) The current process is preempted
    c) The new process waits
    d) Both processes run simultaneously

15. Which of the following is true about SRT scheduling?

    a) It always leads to starvation
    b) It is less complex than SJN
    c) It can improve turnaround time
    d) It is suitable for batch systems

16. What is a potential issue with SRT scheduling?

    a) High turnaround time
    b) Increased context switching
    c) Guaranteed fairness
    d) All of the above

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**Round Robin (RR) Scheduling**

17. In Round Robin scheduling, what is the primary factor determining how long a process runs?

    a) Burst time
    b) Priority level
    c) Time quantum
    d) Arrival time

18. Which of the following describes a time quantum in Round Robin scheduling?

    a) The total time for all processes
    b) The maximum time a process can run before being preempted
    c) The minimum burst time of all processes
    d) The average waiting time of all processes

19. What is a major advantage of Round Robin scheduling?

    a) Fair allocation of CPU time
    b) Minimizes turnaround time
    c) Simple to implement
    d) Prevents starvation

20. What happens if the time quantum is set too high in Round Robin scheduling?

    a) Increased context switching
    b) Fairness decreases
    c) It behaves like FCFS
    d) Processes get starved

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**Multiple-Level Queues Scheduling**

21. In Multiple-Level Queues scheduling, how are processes categorized?

    a) By their burst time
    b) By their priority and type
    c) Randomly
    d) By arrival time

22. What is a key feature of Multiple-Level Queues scheduling?

    a) All processes share a single queue
    b) Each queue has its own scheduling algorithm
    c) Processes are executed only once
    d) Processes cannot move between queues

23. How is a process selected from a Multiple-Level Queue?

a) By highest burst time
b) By round-robin order across all queues
c) Based on the specific scheduling policy of its queue
d) Randomly

24. Which of the following is a common use case for Multiple-Level Queues scheduling?

a) All processes have the same priority
b) Differentiating between interactive and batch processes
c) Reducing context switching
d) Ensuring all processes finish simultaneously

25. What is a challenge associated with Multiple-Level Queues scheduling?

a) Increased context switching
b) Difficult to implements
c) Starvation of processes in lower-priority queues
d) All of the above