Practice Questions on CPU Scheduling Algorithm

1. Let us consider the set of 5 processes with their arrival time and burst time as given below:

Process Id	Arrival time	Burst time
P1	3	1
P2	1	4
P3	4	2
P4	0	6
P5	2	3

   a. If the CPU scheduling policy is SJF non-preemptive, calculate the average turn-around time and average waiting time.

   b. If the CPU scheduling policy is SJF preemptive, calculate the average turn-around time, average waiting time and response time.

2. Given below are the set of 5 processes with their arrival time and burst time

Process Id	Arrival time	Burst time
P1	0	7
P2	1	5
P3	2	3
P4	3	1
P5	4	2

   a. If the CPU scheduling policy is shortest remaining time first, calculate the average turn-around time, average waiting time and response time.

3. Consider the set of 6 processes whose arrival time and burst time are given below-

Process Id	Arrival time	Burst time
P1	5	5
P2	4	6
P3	3	7
P4	1	9
P5	2	2
P6	6	3

   a. If the CPU scheduling policy is Round Robin with time quantum = 2, calculate the average turn-around time, average waiting time and response time.

4. Four processes to be executed on a single processor system arrived at time 0 in the order A, B, C, D. Their CPU burst time requirements are 4, 1, 8, 1 time units respectively. What will be the completion time of A under round robin scheduling with time slice of one time unit? Show the Gant Chart.

5. Consider the arrival time and burst time of five different processes as given below

Process Id	Arrival time	Burst time
P1	0	5
P2	1	3
P3	2	1
P4	3	2
P5	4	3

   If the CPU scheduling policy is Round Robin with time quantum = 3 unit, calculate the average turn-around time, average waiting time and response time.

6. Consider following values for the arrival time, burst time and associated priority for 5 different processes.

Process Id	Arrival time	Burst time	Priority
P1	0	4	2
P2	1	3	3
P3	2	1	4
P4	3	5	5
P5	4	2	5

   a. If the CPU scheduling policy is priority non-preemptive, calculate the average turn-around time and average waiting time with. (Lower number represents higher priority)

   b. If the CPU scheduling policy is priority preemptive, calculate the average turn-around time, average waiting time and response time. (Higher the number, higher the priority)

7. Consider the set of 5 processes whose arrival time and burst time are given below-

Process Id	Arrival time	Burst time
P1	3	4
P2	5	3
P3	0	2
P4	5	1
P5	4	3

If the CPU scheduling policy is FCFS, calculate the average turn-around time and average waiting time.