

Operating System

Unit II

Numerical Practice Questions based on Preemptive SJF Scheduling Algorithm **(SRTN Algorithm)**

Q1. Consider the set of 5 processes whose arrival time and burst time are given below-

Process Id	Arrival time	Burst time
P1	2	6
P2	5	2
P3	1	8
P4	0	3
P5	4	4

If the CPU scheduling policy is SJF preemptive, calculate the average waiting time and average turnaround time.

Check Your answer:

- *Average waiting time = 4.6 unit*

Q2. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

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

Check Your answer:

- *Average Waiting time = 3.75*

Q3. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	2	6
P2	5	2
P3	1	8
P4	0	3
P5	4	4

Check Your answer:

- *Average Turn-around time = 9.2*
- *Average Waiting time = 4.6*

Q4. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	0	3
P2	0	6
P3	2	3
P4	3	2

Check Your answer:

- *Average Turn-around time = ??*
- *Average Waiting time = ??*

Q5. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	0	8
P2	1	4
P3	2	9

Check Your answer:

- *Average Turn-around time = 11.66*
- *Average Waiting time = 4.66*

Q6. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	0	18
P2	1	4
P3	2	7
P4	3	2

Check Your answer:

- *Average Turn-around time = 12.75*
- *Average Waiting time = 5*

Q7. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	0	7
P2	2	4
P3	4	1
P4	5	4

Check Your answer:

- *Average Turn-around time = ??, Average Waiting time = 3*

Q8. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	0	10
P2	1	6
P3	3	2
P4	5	4

Check Your answer:

- *Average Turn-around time = 10*
- *Average Waiting time = 4.5*

Q9. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	0	12
P2	2	4
P3	3	6
P4	8	5

Check Your answer:

- *Average Turn-around time = 12.75*
- *Average Waiting time = 5.5*

Q10. Consider the given table below and find Completion time (CT), Turn-around time (TAT), Waiting time (WT), Average Turn-around time and Average Waiting time.

Process ID	Arrival time	Burst time
P1	0	6
P2	3	2
P3	5	4
P4	7	6
P5	10	3

Check Your answer:

- *Average Turn-around time = 7.2*
- *Average Waiting time = ??*