

Operating System

Unit II

Numerical Practice Questions based on Round Robin Scheduling Algorithm

(RR Algorithm)

Q1. Consider the set of 5 processes whose arrival time and burst time are 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 = 2 unit**, calculate the average waiting time.

Check Your answer:

- *Average waiting time = 5.8 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. **(time quantum = 3)**

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

Check Your answer:

- *Average Turn-around time = 21.33*
- *Average Waiting time = 16*

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. **(time quantum = 2)**

Process ID	Arrival time	Burst time
P1	0	4
P2	1	5
P3	2	2
P4	3	1
P5	4	6
P6	6	3

Check Your answer:

- *Average Turn-around time = 10.84*
- *Average Waiting time = 7.33*

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.

(time quantum = 1)

Process ID	Arrival time	Burst time
P1	0	4
P2	0	1
P3	0	8
P4	0	1

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.

(time quantum = 2)

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

Check Your answer:

- *Average Turn-around time = 14.25*
- *Average Waiting time = 9.5*

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.

(time quantum = 8)

Process ID	Arrival time	Burst time
P1	0	10
P2	1	9
P3	2	12
P4	3	6

Check Your answer:

- *Average Turn-around time = 31.5*
- *Average Waiting time = 22.25*

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.

(time quantum = 1)

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 = 19.5*
- *Average Waiting time = 14*

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.

(time quantum = 2)

Process ID	Arrival time	Burst time
P1	0	4
P2	0	3
P3	0	5

Check Your answer:

- *Average Turn-around time =*
- *Average Waiting time = 5.6*

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.

(time quantum = 2)

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

Check Your answer:

- *Average Turn-around time = 16.6*
- *Average Waiting time = 12*

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.

(time quantum = 5)

Process ID	Arrival time	Burst time
P1	0	21
P2	0	3
P3	0	6
P4	0	2

Check Your answer:

- *Average Turn-around time = 19*
- *Average Waiting time = 11*