Process	P1	P2	P3	P4
CPU Burst	10	8	4	6

Answer

Let’s assume that all processes arrive at time 0 for simplicity.

(i) Round Robin (RR) Scheduling (q = 2):

Step 1: Execute processes in a round-robin fashion with a time quantum (q) of 2 until all processes complete.

Time Quantum = 2

Time	P1	P2	P3	P4	P1	P2	P4	P1

	2	2	2	2	2	2	2	4
WT	0	8	6	10	14	16	16	18

Step 2: Calculate the waiting time (WT) for each process.

- WT(P1) = 0
- WT(P2) = 8
- WT(P3) = 6
- WT(P4) = 10

Step 3: Calculate the average waiting time (AWT):

AWT = (WT(P1) + WT(P2) + WT(P3) + WT(P4)) / Number of processes
AWT = (0 + 8 + 6 + 10) / 4
AWT = 24 / 4
AWT = 6

(ii) Shortest Job First (SJF) Scheduling:

Step 1: Execute processes in ascending order of burst time (shortest first) until all processes complete.

Time	P3	P4	P2	P1

	4	6	8	18
WT	0	4	14	16

Step 2: Calculate the waiting time (WT) for each process.

- WT(P1) = 16
- WT(P2) = 14
- WT(P3) = 0
- WT(P4) = 4

Step 3: Calculate the average waiting time (AWT):

AWT = (WT(P1) + WT(P2) + WT(P3) + WT(P4)) / Number of processes
AWT = (16 + 14 + 0 + 4) / 4
AWT = 34 / 4
AWT = 8.5