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Assignment - 3

for the following data of process calculate turn around time & waiting time using SJF (both) & round Robin with time quantum = 2 msec.

Process	Arrival time	Burest time
P_1	0	3
P_2	1	5
P_3	3	2
P_4	9	5
P_5	12	5

→ Using SJF preemtive

Initially lets have Gantt chart

P_1	P_3	P_2	P_4	P_5

0 3 5 10 15 20

Now	C.T	T.A.T	W.T
P_1	3	3	0
P_2	10	9	4
P_3	5	2	0
P_4	15	6	1
P_5	20	8	3

Where

Turn around time = Completion time − Arrival time

TAT = CT − AT

and

Waiting time (WT) = Turn around time − Burst time

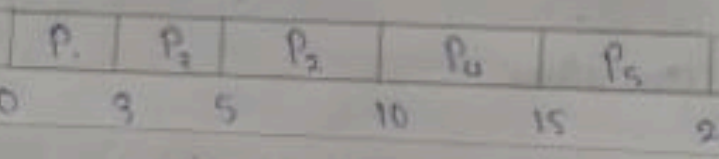
WT = TAT − BT

Now,

Average waiting time = $\frac{0+4+0+1+3}{5} = \frac{8}{5} = 1.6$ ms

2] using SJF non preemtive

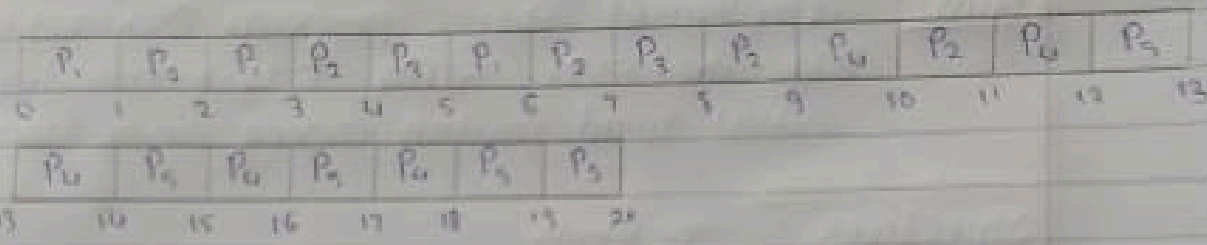
Gantt chart



	C.T	TAT	WT
P_1	3	3	0
P_2	10	9	4
P_3	5	2	0
P_4	15	6	1
P_5	20	8	3

Averag WT = $\frac{0+4+0+1+3}{5} = 1.6$ ms

3) Using Round Robin TQ = 1 ms



	C.T	TAT	W.T
P_1	6	6	3
P_2	11	10	5
P_3	8	5	3
P_4	18	9	4
P_5	20	8	9

Average waiting time = $\frac{3+5+3+4+3}{5} = \frac{18}{5} = 3.6$ ms

Average TAT = $\frac{6+10+5+9+8}{5} = 7.6$ ms