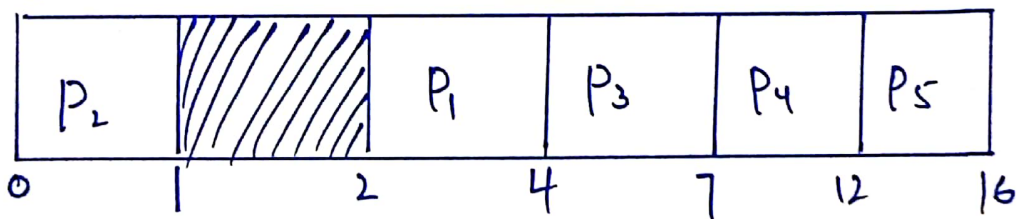


First come, first serve

Example 1:-

Process ID	Arrival Time	Burst Time	Completion Time	Waiting Time	Turnaround Time
P ₁	2	2	4	0	2
P ₂	0	1	1	0	1
P ₃	2	3	7	2	5
P ₄	3	5	12	4	9
P ₅	4	4	6	8	12

Grant Chart:-



Basically

$$\text{Turn around Time} = \text{Arrival Time} - \text{Completion}$$

$$\text{Waiting Time} = \text{Turnaround Time} - \text{Burst Time}$$

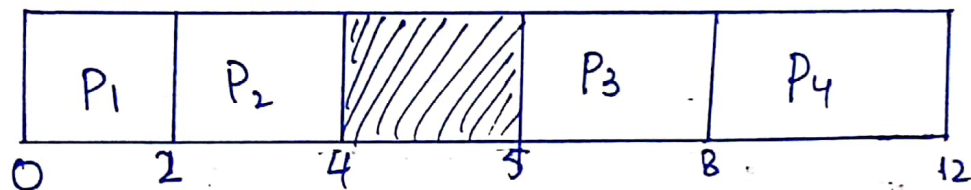
And

Response Time is actually the waiting time.

2-

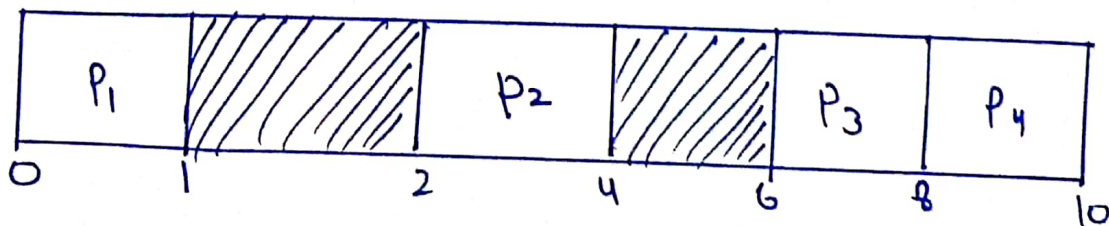
Process ID	Arrival Time	Completion Time	Turnaround Time	Waiting Time	Best Time	Response Time
P ₁	0	2	2	0	2	0
P ₂	1	4	3	1	2	1
P ₃	5	8	3	0	3	0
P ₄	6	12	6	2	4	2

Gantt chart



3-

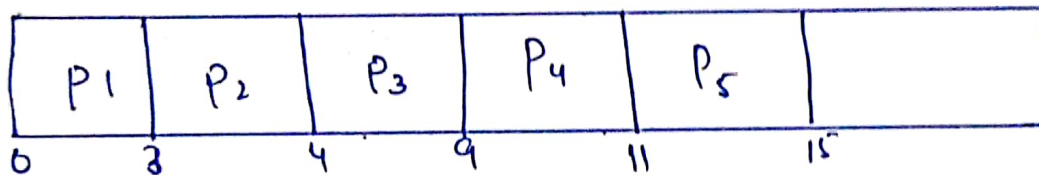
Process ID	(A-T)	(B-T)	(C-T)	(T-A-T)	(W-T)
P ₁	0	1	1	1	0
P ₂	2	2	4	2	0
P ₃	4	3	8	3	0
P ₄	6	2	10	4	2



4-

Process	(A-T)	(B-T)	(C-T)	(T-A-T)	W-T
P ₁	0	3	3	3	0
P ₂	1	1	4	3	2
P ₃	2	5	9	7	2
P ₄	3	2	11	8	6
P ₅	4	4	15	11	7

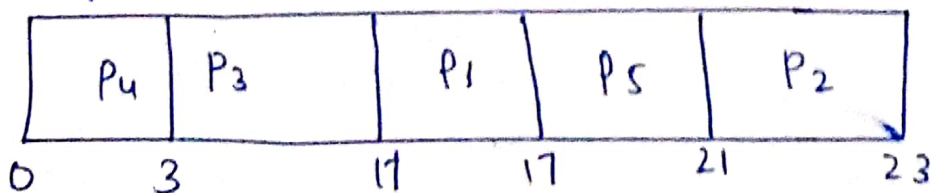
Grant chart.



5-

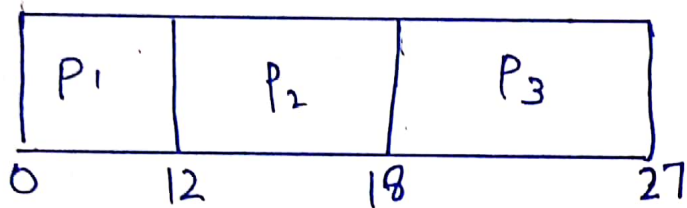
Process ID	(B-T)	(A-T)	(C-T)	(T-A-T)	(W-T)
P ₁	6	2	17	15	9
P ₂	2	5	23	18	16
P ₃	8	1	11	10	2
P ₄	3	0	3	3	0
P ₅	4	4	21	17	13

Grant chart



Process	(A-T)	(B-T)	(C-T)	(T-A-T)	(W-T)
P ₁	0	12	12	12	0
P ₂	1	6	18	17	11
P ₃	4	9	21	23	14

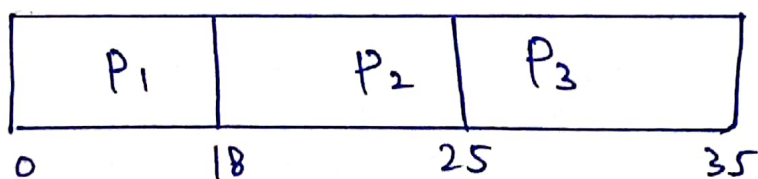
Gantt chart



7-

Process	(A-T)	(B-T)	(C-T)	(T-A-T)	W-T
P ₁	0	18	18	18	0
P ₂	2	7	25	23	16
P ₃	2	10	35	33	23

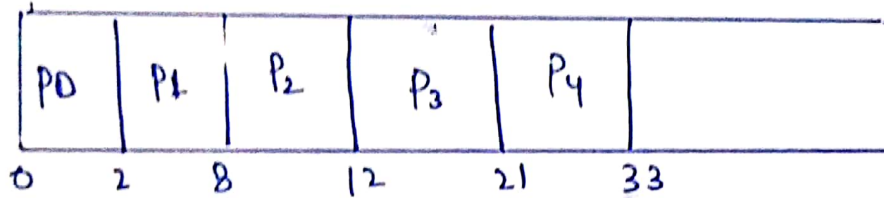
Gantt chart



8- Process (A-T) (B-T) (C-T) (T-A-T) (W-T)

P ₀	0	2	2	2	0
P ₁	1	6	8	7	1
P ₂	2	4	12	8	4
P ₃	3	9	21	18	9
P ₄	4	12	33	29	17

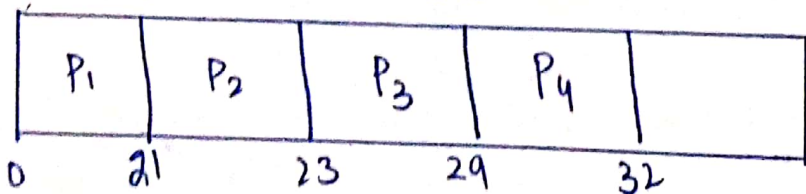
Gantt chart



9- Process ID (B-T) (A-T) (T-A-T) (C-T) (W-T)

P ₁	21	0	21	21	21
P ₂	3	1	22	23	29
P ₃	6	2	27	29	23
P ₄	2	3	29	32	30

Gantt chart.

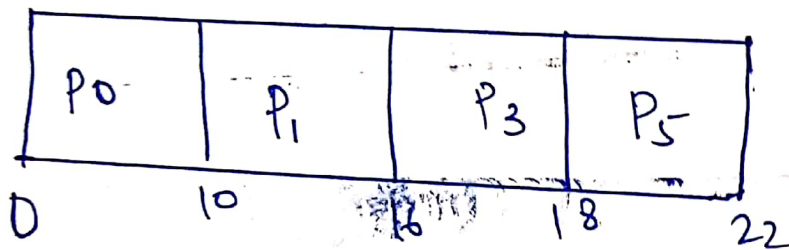


10-

Process (A-T) (B-T) (C-T) (T-A-T) (W-T)

P ₀	0	10	10	10	0
P ₁	1	6	16	15	9
P ₂	3	2	18	15	13
P ₃	5	4	22	17	13

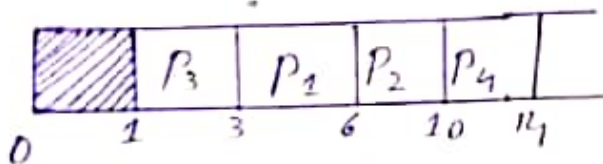
Gantt chart



SJF (Shortest Job First)

1-

J-D	A-T	B-T	C-T	TAT	WT	RT
P ₁	1	3	6	5	2	2
P ₂	2	4	10	8	4	4
P ₃	1	2	3	2	0	0
P ₄	4	4	14	10	6	6

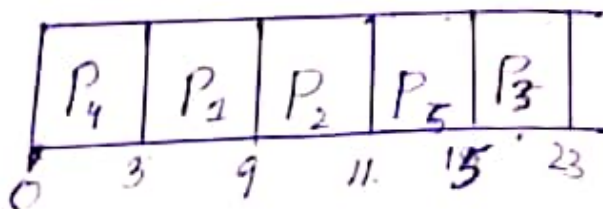


Criteria "Burst
Mode "Non-F"

Explain: P₁ and P₃ have same Arrival Time, but we selected through Burst Time which is short, LPT run the first.

2-

J-D	A-T	B-T	C-T	TAT	WT	RT
P ₁	2	6	9	7	1	1
P ₂	5	2	11	6	4	4
P ₃	1	8	19 22	22	14	14
P ₄	0	3	3	3	0	0
P ₅	4	4	25	11	7	7



3-

ID	AT	BT	CT	TAT	WT	RT
P ₁	0	7	7	7	7	7
P ₂	1	5	19	18	13	13
P ₃	2	3	14	11	9	9
P ₄	3	1	8	5	4	4
P ₅	4	2	11	7	5	5
P ₆	5	1	9	4	3	3

P ₁	P ₄	P ₆	P ₅	P ₃	P ₂	
0	7	8	9	11	14	19

Mode - Non-Preempti

4:-

ID	A-T	B-T	C-T	TAT	WT	RT
P ₁	0	8	8	8	0	0
P ₂	1	1	9	8	7	7
P ₃	2	3	14	12	9	9
P ₄	3	2	11	8	6	6
P ₅	4	6	20	16	10	10

P ₁	P ₂	P ₄	P ₃	P ₅	
0	8	9	11	14	20

5:-

ID	AT	BT	CT	TAT	WT	RT
P ₁	0	4	4	4	0	0
P ₂	1	3	10	9	6	6
P ₃	2	1	5	3	2	2
P ₄	3	2	7	4	2	2
P ₅	4	6	16	12	6	6

P ₁	P ₃	P ₄	P ₂	P ₅	
0	4	5	7	10	16

"Non-Preemptive"

6:-

P-ID	A-T	B-T	C-T	TAT	WT	RT
P ₁	0	5	5	5	0	0
P ₂	1	2	8	7	5	5
P ₃	2	1	6	4	3	3
P ₄	3	4	12	9	5	5

P ₁	P ₃	P ₂	P ₄	
0	5	6	8	12

"Non-Preemptive"

7:-

P-ID	A-T	B-T	C-T	TAT	WT	RT
P ₁	3	2	5	2	0	0
P ₂	2	4	9	7	3	3
P ₃	1	2	3	2	0	0
P ₄	0	1	1	1	0	0

P ₄	P ₃	P ₂	P ₁	
0	1	3	5	9

"Non-Preemptive"

8:-

P-ID	A-T	B-T	C-T	TAT	WT	RT
P ₁	0	6	6	6	0	0
P ₂	1	3	11	10	7	7
P ₃	2	2	8	6	4	4

P ₁	P ₃	P ₂	
0	6	8	11

"Non-Preemptive"

9:-

ID	A-T	B-T	C-T	TAT	WT	RT
P ₁	4	5	11	7	2	2
P ₂	2	3	6	4	1	1
P ₃	1	3	3	2	1	1

	P ₃	P ₂	P ₁	
0	1	3	6	11

10:-

P-ID	A-T	B-T	C-T	TAT	WT	RT
P ₁	0	12	12	12	0	0
P ₂	2	9	28	26	17	17
P ₃	4	1	13	9	8	8
P ₄	6	3	16	10	7	7

P_1	P_3	P_4	P_2	
0	12	13	16	28

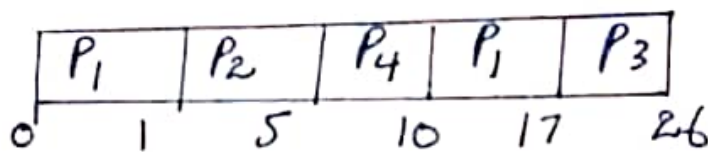
"Non-Preemptive"

SRTF (Shortest Remaining Job First)

1 -

ID	A-T	B-T	C-T	TAT	WT	RT
P ₁	0	8	17	17	9	0
P ₂	1	4	5	4	0	1
P ₃	2	9	26	24	15	17
P ₄	3	5	10	7	2	5

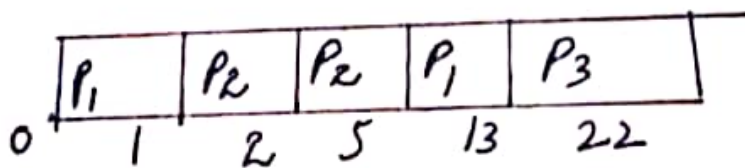
Gantt Chart



mode: Preemptive

2 -

ID	AT	BT	C-T	TAT	WT	RT
P ₁	0	9	13	13	4	0
P ₂	1	4	5	4	0	0
P ₃	2	9	22	20	11	10



3-

ID	AT	BT	CT	TAT	WT	RT
P ₁	0	8	20	20	12	0
P ₂	1	4	10	9	5	0
P ₃	2	2	4	2	0	0
P ₄	3	1	5	2	1	1
P ₅	4	3	13	9	6	6
P ₆	5	2	7	2	0	0

P_1	P_2	P_3	P_3	P_4	P_6	P_6	P_2	P_5	P_1	
0	1	2	3	4	5	6	7	10	13	20

4-

ID	AT	BT	CT	TAT	WT	RT
P ₁	0	20	20	20	0	0
P ₂	15	25	55	40	15	0
P ₃	30	10	40	10	0	0
P ₄	45	15	70	25	10	10

P_1	P_1	P_2	P_3	P_2	P_2	P_4	
0	15	20	30	40	45	55	70

5-

	ID	AT	BT	CT	MT	WT	RT
P_1	2	1	3	1	0	0	
P_2	1	5	16	15	10	10	
P_3	4	1	5	1	0	0	
P_4	0	6	11	11	5	0	
P_5	2	3	7	5	2	1	

P_4	P_4	P_1	P_5	P_3	P_5	P_4	P_2	
0	1	2	3	4	5	7	11	16

6-

	ID	AT	BT	CT	MT	WT	RT
P_1	0	8	13	13	5	0	
P_2	1	2	3	2	0	1	
P_3	4	3	7	3	0	0	

P_3		4	3	7	5	6							
P_4	P_2	P_2	P_3	P_3	P_3	P_3	P_1	P_1	P_1	P_1	P_1	P_1	P_2
0	1	2	3	4	5	6	7	8	9	10	11	12	13

7-

	PD	AT	BT	CT	MT	WT	RT
P_1	0	5	9	9	4	0	
P_2	1	3	4	3	6	0	
P_3	2	4	13	11	7	7	
P_4	4	10	5	1	0	0	

P_1	P_2	P_2	P_2	P_4	P_1	P_1	P_1	P_1	P_3
0	1	2	3	4	5	6	7	8	13

ID	AT	BT	CT	TAT	WT
P ₁	0	5	10	10	5
P ₂	1	2	3	2	0
P ₃	2	5	15	13	8
P ₄	3	3	6	3	0

P_1	P_2	P_2	P_4	P_1	P_3	
0	1	2	3	6	10	15

9-

ID	AT	BT	CT	TAT	WT
P ₁	0	7	19	19	12
P ₂	1	5	13	12	7
P ₃	2	3	6	4	1
P ₄	3	1	4	1	0
P ₅	4	2	9	5	3
P ₆	5	1	7	2	1

P ₁	P ₂	P ₃	P ₄	P ₃	P ₆	P ₅	P ₂	P ₁	
0	1	2	3	4	6	7	9	13	19

10-

ID	AT	BT	CT	TAT	WT
1	0	7	12	12	12
2	1	5	13	12	7
3	2	3	6	4	1
4	3	1	4	1	0
5	4	2	2	5	3
6	5	1	7	2	1

P ₁	P ₂	P ₃	P ₄	P ₃	P ₃	P ₃	P ₆	P ₅	P ₂	P ₁
0	1	2	3	4	5	6	7	9	13	12