ID - 1938520113

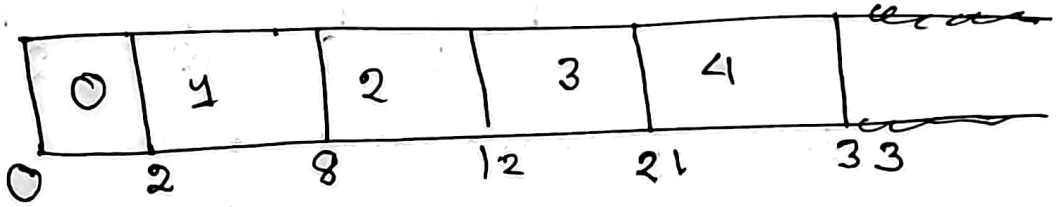
FCFS

CT-AT TAT-BT

1.

Process	Arrival time	B.T	CT	TAT	WT
0	0	2	2	2	0
1	1	6	8	7	1
2	2	4	12	10	6
3	3	9	21	18	9
4	6	12	33	27	15

Gantt Chart



$\therefore AWT = \frac{0+1+6+9+15}{5} = 6.2$

$\therefore ATCT = \frac{2+8+12+21+33}{5} = 15.2$

$\therefore ATAT = \frac{2+7+10+18+27}{5} = 12.8$

2.

Process	AT	BT	CT	TAT	WT
P1	0	21	21	21	0
P2	0	3	24	24	21
P3	0	6	30	30	24
P4	0	2	32	32	30

Gantt Chart

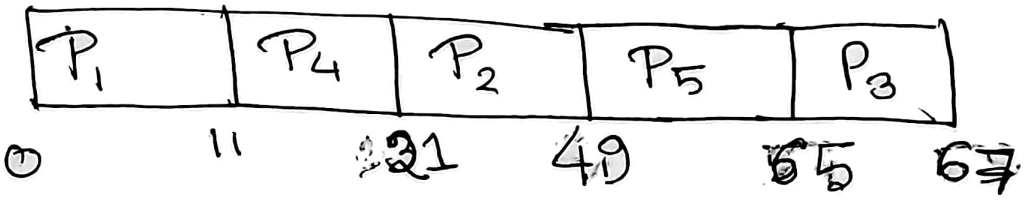
AWT = (0+21+24+30)/4 = 18.75

ACT = (21+24+30+32)/4 = 26.75, ATAT = 26.75

CamScanner

(3)

P	AT	BT	P	CT	TAT	WT
P_1	0	11	2	11	11	0
P_2	5	28	0	49	44	16
P_3	12	2	3	67	55	53
P_4	2	10	1	21	19	9
P_5	9	16	4	65	56	40

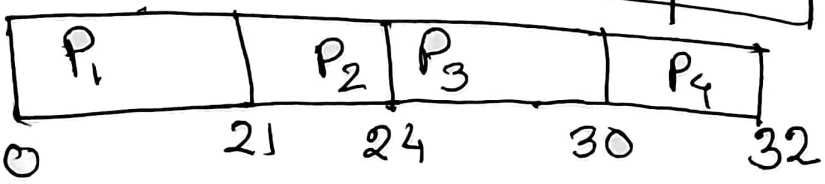


AWT = 23.6 . ACT = 42.6 .

ATAT = 37

(4)

P	BT	P	CT	TAT	WT
P_1	21	2	21	21	0
P_2	3	1	24	24	21
P_3	6	4	30	30	24
P_4	2	3	32	32	30



AWT = 18.75, ATAT = ACT = 26.75 .

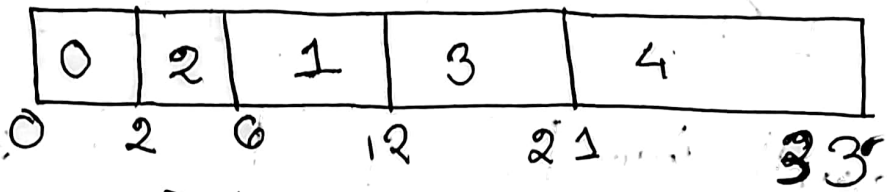
(2)

SJF

1.

Process	AT	BT	CT	TAT	WT
0	0	2	2	2	0
1	1	6	12	11	5
2	2	4	6	4	0
3	3	9	21	18	9
4	6	12	33	27	15

Gantt chart



AWT = (0+5+0+9+15)/5 = 5.8

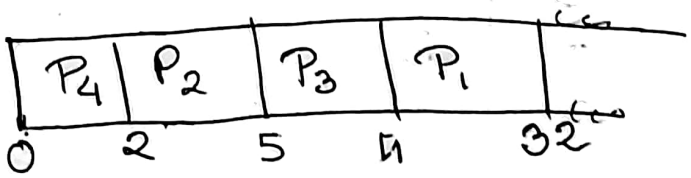
ACT = (2+12+6+21+33)/5 = 14.8

ATAT = (2+11+4+18+27)/5 = 12.4

2.

Process	AT	BT	CT	TAT	WT
P_1	0	21	32	32	11
P2	0	3	5	5	2
P3	0	6	11	11	5
P4	0	2	2	2	0

Gantt Chart



AWT = (11+2+5)/4 = 4.5

ACT = (32+5+11+2)/4 = 12.5

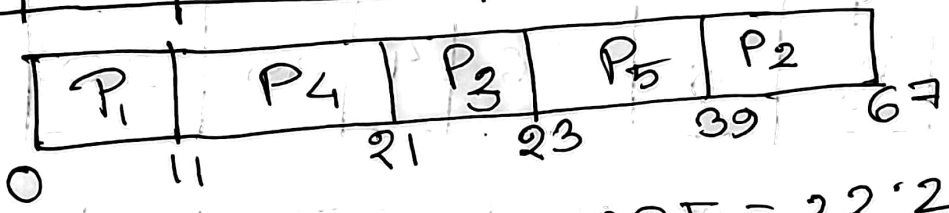
ATAT = 12.5

SJF

④

③

P	AT	BT	P.	CT	TAT	WT
P_1	0	11	2	11	11	0
P_2	5	28	0	67	62	34
P_3	12	2	3	23	11	9
P_4	2	10	1	21	19	9
P_5	9	16	4	39	30	14

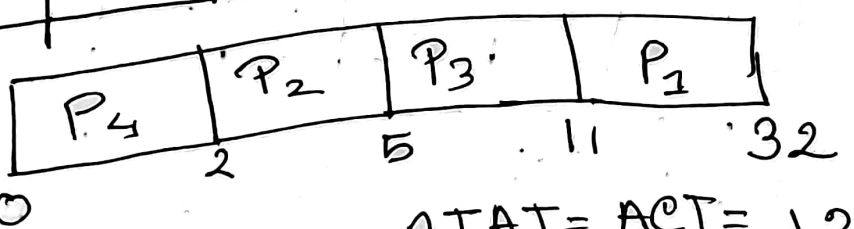


ACT = 32·2

AWT = 13·2

ATAT = 26·6

P	BT	P	CT	TAT	WT
P_1	21	2	32	32	11
P_2	3	1	5	5	2
P_3	6	4	11	11	5
P_4	2	3	2	2	0



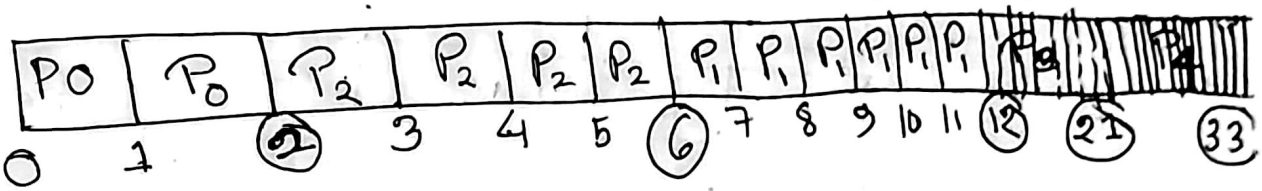
AWT = 4·5

ATAT = ACT = 12·5

SRTF T.Q = 1

Process	Arrival time	B.T	C.T	CT-AT TAT	TAT-BT W.T
0	0	2	2	2	0
1	1	6	12	11	5
2	2	4	6	4	0
3	3	9	21	18	9
4	6	12	33	27	15

GC:



~~$P_0 \to 10$~~
~~$P_1 \to 60$~~
~~$P_2 \to 24 \to 32 \times 0$~~
~~$P_3 \to 80$~~
~~$P_4 \to 12$~~ ⊖

AWT = (5+9+15)/5 = 5.8

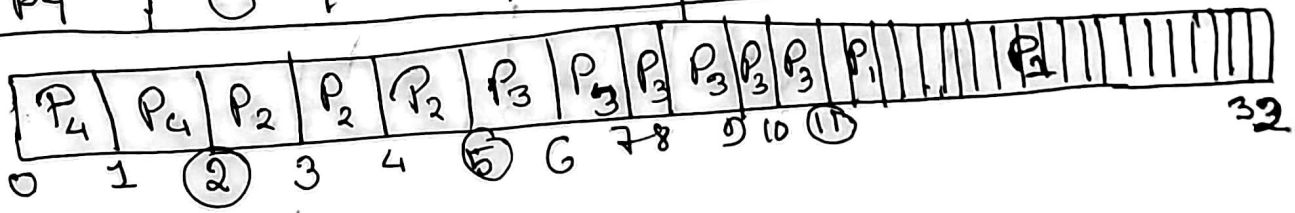
ACT = (2+12+6+21+33)/5 = 14.8

ATAT = (2+11+4+18+27)/5 = 12.4

2.

Process	AT	BT	CT	TAT	WT
P1	0	2)	32	32	11
P2	0	3	5	5	2
P3	0	6	11	11	5
P4	0	2	2	2	0

GC:



AWT = (11+2+5+0)/4 = 4.5

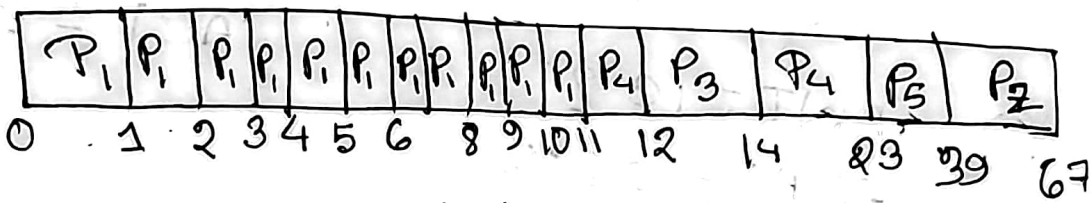
ATAT = (32+5+11+2)/4 = 12.5

ACT = 12.5

SRTF T.Q=1

3.

P	AT	BT	P	CT	TAT	WT
P_1	0	11	2	11	11	0
P_2	5	28	0	67	62	34
P_3	12	2	3	14	2	0
P_4	2	10	1	23	21	11
P_5	9	16	4	39	30	14

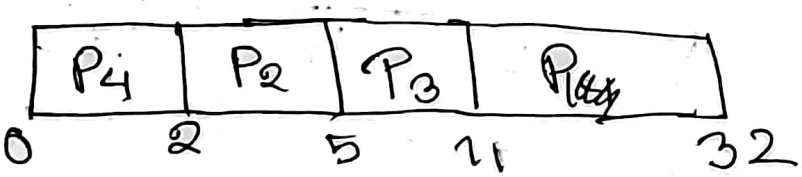


ACT = 30.8 AWT = 11.8

ATAT = 25.2

4.

P	AT	BT	P	CT	TAT	WT
P1	0	21	2	32	32	11
P2	0	3	1	5	5	2
P3	0	6	4	11	11	5
P4	0	2	3	2	2	0



ATAT = ACT = 12.5

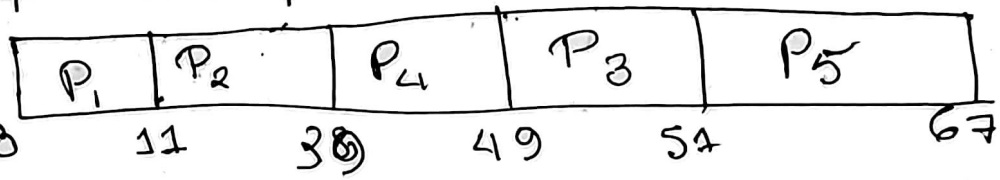
AWT = 4.5

(7)

Priority Scheduling (Non-Preemptive)

Process	AT	BT	Priority	CT	TAT	WT
P_1	0	11	2	11	11	0
P_2	5	28	0	39	34	6
P_3	12	2	3	51	39	37
P_4	2	10	1	49	47	37
P_5	9	16	4	67	58	42

GC



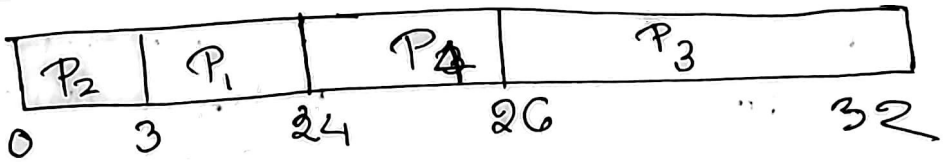
AWT = (0+6+37+37+42)/5 = 24.4

ATAT = (11+34+39+47+58)/5 = 37.8

ACT = (11+39+51+49+67)/5 = 43.4

Process	B.T	Priority	CT	TAT	WT
P_1	21	2	24	24	3
P2	3	1	3	3	0
P_3	6	4	32	32	26
P4	2	3	26	26	24

GC



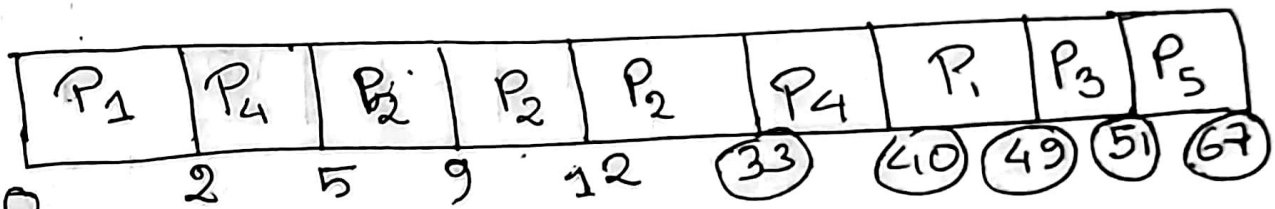
AWT = (3+0+26+24)/4 = 13.25

ATAT = ACT = (24+3+32+26)/4 = 21.25

3. Priority Scheduling (Preemptive)

Process	AT	BT	Priority	CT	TAT	WT
P_1	0	11	2	49	49	38
P_2	5	28	0	33	28	0
P_3	12	2	3	51	39	37
P_4	2	10	1	40	38	28
P_5	9	16	4	67	58	42

GC



$P_1 \rightarrow$ ~~9~~ 0
$P_4 \rightarrow$ ~~0~~ ~~7~~ 10
$P_2 \rightarrow$ ~~24~~ ~~21~~ 0
$P_5 \rightarrow 16$
$P_3 \rightarrow 12$

$ATWT = (38+37+28+42)/5 = 29$

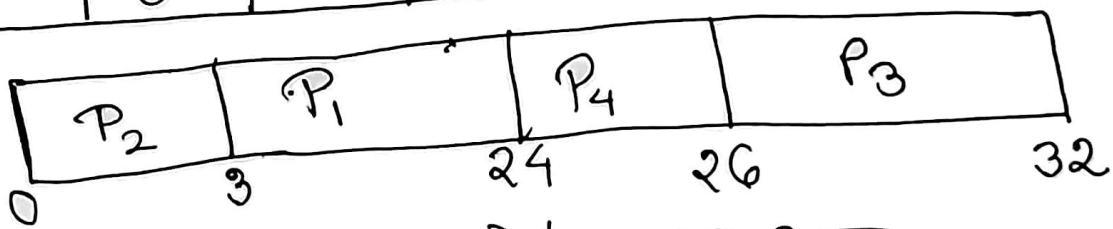
$ATAT = (49+28+39+38+58)/5 = 42.4$

$ACT = (49+33+51+40+67)/5 = 48$

4.

Process	AT	BT	Priority	CT	TAT	WT
P_1	0	21	2	24	24	3
P_2	0	3	1	3	3	0
P_3	0	6	4	32	32	26
P_4	0	2	3	26	26	24

GC



$AWT = (3+26+24)/4 = 13.25$

$ATAT = ACT = (24+3+32+26)/4 = 21.25$

CamScanner

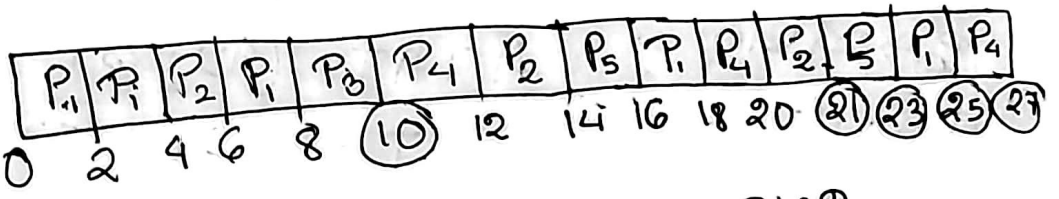
Round Robin Time Quantum-2

1.

Process	AT	BT	CT	TAT	WT
P_1	0	10	25	25	15
P_2	3	5	21	~~19~~ 18	13
P_3	5	2	10	5	~~8~~ 3
P_4	6	6	27	21	15
P_5	8	4	23.	15	11

Queue

Gantt Chart



$P_1 = \cancel{6}\ \cancel{4}\ 2$
$P_2 = \cancel{5}\ \cancel{3}\ \cancel{1}$
$P_3 = \cancel{2}0$
$P_4 = \cancel{6}\ \cancel{4}\ 2$
$P_5 = \cancel{4}\ \cancel{2}0$

AWT = 11.4, ATAT = 16.8, ACT = 21.2

T.Q = 2

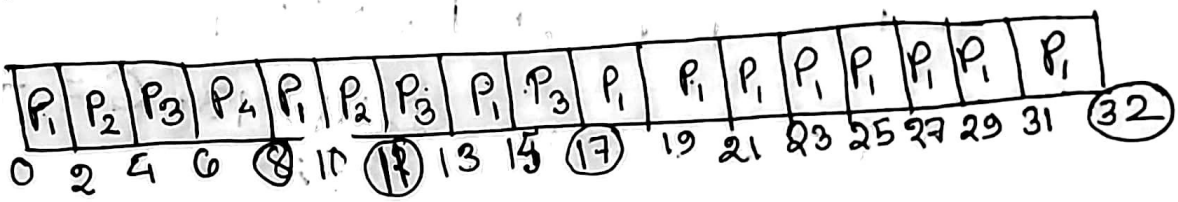
(10)

2.

Process	BT	AT	CT	TAT	WT
P_1	21	0	32	32	11
P_2	3	0	11	11	8
P_3	6	0	17	17	11
P_4	2	0	8	8	6

Queue

Gantt Chart



~~$P_1 \to$ 19 17 15 13~~

~~$P_2 \to$ 1~~

~~$P_3 \to$ 4 2 0~~

~~$P_4 \to$ 0~~

AWT = 9 ATAT = ACT = 17