



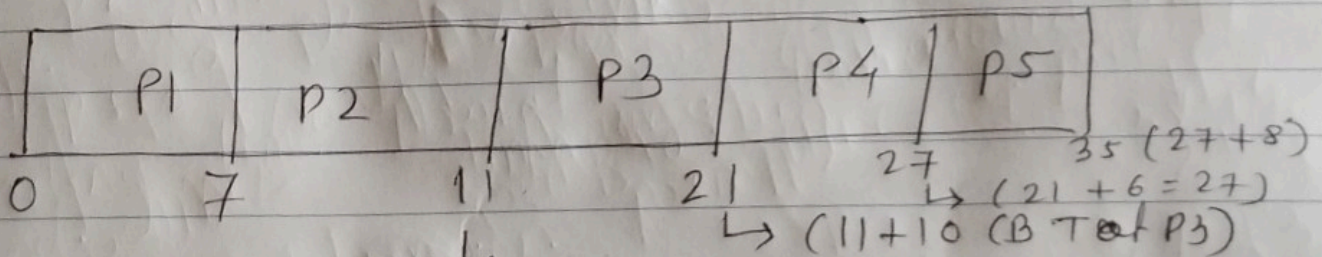
Numericals

Q). Consider following jobs scheduled. Find average waiting time and turnaround time

Process	Arrival Time	Burst time
P1	0	7
P2	1	4
P3	2	10
P4	3	6
P5	4	8

(1) FIFS - First ^{come} ~~serve~~ First Serve

(i) - Gantt chart



Here Starting time at P1 = 0

$$P2 = 7$$

$$P3 = 11$$

$$P4 = 21$$

$$P5 = 27$$

Ending time at

$$P1 = 7$$

$$P4 = 27$$

$$P2 = 11$$

$$P5 = 35$$

$$P3 = 21$$

Arg. $\bar{TAT} =$

(calculate use



Calculating waiting time for each process.

$$\begin{aligned} P_1 &= \text{Starting time} - \text{Arrival time} \\ &= 0 - 0 \\ &= 0 \end{aligned}$$

$$P_2 = 7 - 1 = 6$$

$$P_3 = 11 - 2 = 9$$

$$P_4 = 21 - 3 = 18$$

$$P_5 = 27 - 4 = 23$$

$$\begin{aligned} \text{Average waiting time} &= \frac{0 + 6 + 9 + 18 + 23}{5} \\ &= \frac{56}{5} \\ &= 11.2 // \end{aligned}$$

Turnaround time = Ending Time - Arrival time

$$P_1 = 7 - 0 = 7$$

$$P_2 = 11 - 1 = 10$$

$$P_3 = 21 - 2 = 19$$

$$P_4 = 27 - 3 = 24$$

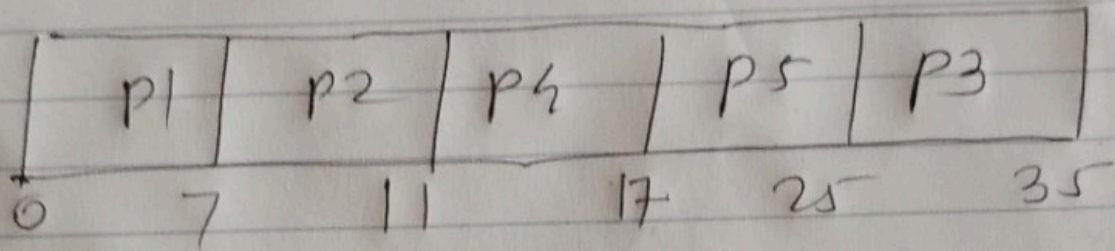
$$P_5 = 35 - 4 = 31$$

$$\begin{aligned} \text{Average Turnaround time} &= \frac{7 + 10 + 19 + 24 + 31}{5} \\ &= \frac{91}{5} = 18.2 // \end{aligned}$$



SJF

(1) Non preemptive approach.



waiting time = starting time - Arrival time

$$P1 = 0 - 0 = 0$$

$$P2 = 7 - 1 = 6$$

$$P3 = 25 - 2 = 23$$

$$P4 = 11 - 3 = 8$$

$$P5 = 17 - 4 = 13$$

$$\text{Average waiting time} = \frac{0 + 6 + 23 + 8 + 13}{5}$$

$$= 50/5 = 10 //$$

Turnaround time = Ending time - Arrival time

$$P1 = 7 - 0 =$$

$$P2 = 11 - 1 =$$

$$P3 = 35 - 2 =$$

$$P4 = 17 - 3 =$$

$$P5 = 25 - 4 =$$

$$\text{Avg. TAT} = \text{(calculate, unself)}$$