

Date

# Assignment #04

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Roll Number: 20F-0336

Section: 4D

Question No: 1	Gantt Chart:	P- id	Exit Time:	Turn Around:	Waiting Time
		P <sub>1</sub>	7	7-3=4	4-4=0
		P <sub>2</sub>	13	13-5=8	8-3=5
		P <sub>3</sub>	2	2-0=2	2-2=0
		P <sub>4</sub>	14	14-5=9	9-1=8
		P <sub>5</sub>	10	10-4=6	6-3=3

$$\text{Avg Turn Around Time} = (4 + 8 + 2 + 9 + 6) / 5$$

$$= 5.8$$

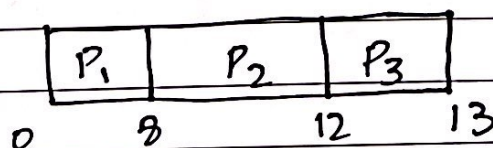
$$\text{Avg Waiting Time} = (0 + 5 + 8 + 3) / 5$$

$$= 3.2$$

Q2: FCFS

Process	Arrival Time	Burst Time	Completion Time	Turn	Wait
P <sub>1</sub>	0	8	8	8	0
P <sub>2</sub>	0.4	4	12	11.6	7.6
P <sub>3</sub>	1	1	13	12	11

Gantt Chart:



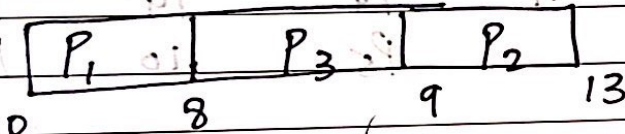
$$\text{Avg Turn Around time} = (8 + 11.6 + 2) / 3 = 10.53$$

Date

b<sub>9</sub> SJF

Process	A-Time	B-Time	Completion Time	Turn
P <sub>1</sub>	6	8	8	8
P <sub>2</sub>	0.4	4	13	12.6
P <sub>3</sub>	1	1	9	8

Gantt Chart



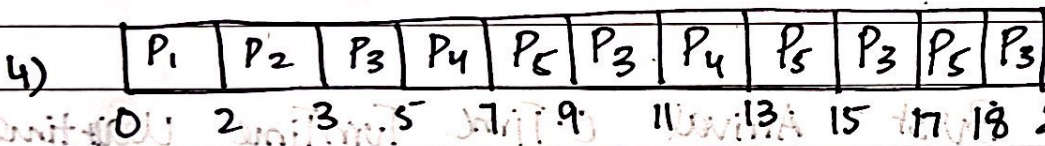
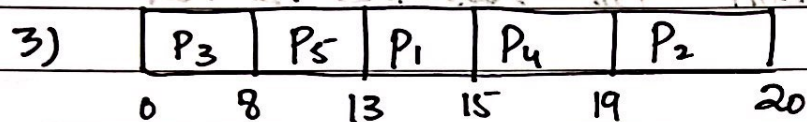
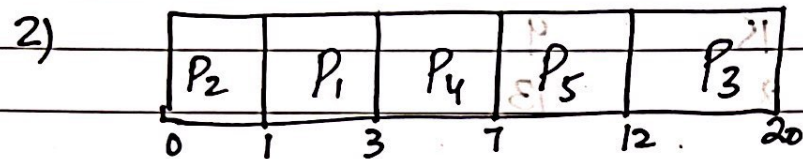
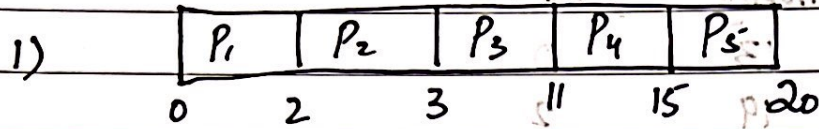
$$\begin{aligned}\text{Avg Turn Around time} &= \frac{(8 + 12.6 + 9)}{3} \\ &= 9.53\end{aligned}$$



Date

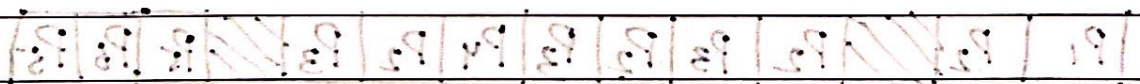
Q3:-

ag



b) Turn Around Time

	FCFS	SJF	Priority	RR
P <sub>1</sub>	3	3	15	2
P <sub>2</sub>	3	1	20	3
P <sub>3</sub>	11	20	8	20
P <sub>4</sub>	15	7	19	13
P <sub>5</sub>	20	12	13	18



2.50

c) Waiting time

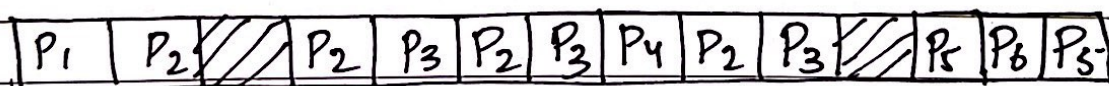
	FCFS	SJF	Priority	RR
P <sub>1</sub>	0	1	13	0
P <sub>2</sub>	2	0	19	2
P <sub>3</sub>	3	12	0	12
P <sub>4</sub>	11	3	15	9
P <sub>5</sub>	15	7	8	13

d) After performing calculation SJF has the shortest wait time.

Q4:-

Pid	Priority	Burst	Arrival	C-Time	TurnTime	Wait time
P <sub>1</sub>	40	20	0	20	20	0
P <sub>2</sub>	30	25	25	25	60	35
P <sub>3</sub>	30	25	30	90	60	35
P <sub>4</sub>	35	15	60	80	20	15
P <sub>5</sub>	5	10	100	110	10	0
P <sub>6</sub>	10	10	105	120	15	5

Cpu Util Chart:-



Cpu utilization rate:  $\frac{105}{120} = 87.5\%$