College of Informatics and Computing Sciences

ACTIVITY: SCHEDULING ALGORITHM

Direction: Solve the following using different Scheduling algorithm techniques to identify the flow of execution of each process.

GIVEN:

Process	Arrival Time	Burst Time	Priority
P0	1	8	1
P1	3	5	1
P2	0	6	3
P3	5	4	4
P4	6	3	2

1. FIRST COME FIRST SERVE (DRAW THE GANNT' CHART). Solve the waiting time and its average waiting time.

P2	P0	P1	P3	P4
0	6	14	19	23 26

Process	Wait Time	End Time	Turn Around Time
P2	**0**	**6**	**6**
P0	**5**	**14**	**13**
P1	**11**	**19**	**16**
P3	**14**	**23**	**18**
P4	**17**	**26**	**20**

2.

Average Waiting Time: 37 / 5 = 7.4

SHORTEST JOB FIRST SCHEDULING- NON-PREEMPTIVE AND PREEMPTIVE (DRAW THE GANNT' CHART). Solve the waiting time and its average waiting time.

Non- Preemptive:

Gantt Chart:

P2	P0	P1	P3	P4
0	6	9	13	18 26

Process	Wait Time	End Time	Turn Around Time
P2	0	6	6
P4	0	9	3
P3	4	13	8
P1	10	18	15
P0	17	26	25

Average Waiting Time: 33 / 5 = 6.6

Preemptive:

Gantt Chart:

P2	P0	P1	P3	P4
0	6	9	13	18 26

Process	Wait Time	End Time	Turn Around Time
P2	0	6	6
P4	0	9	3
P3	4	13	8
P1	10	18	15
P0	17	26	25

Average Waiting Time: 33 / 5 = 6.6

- PRIORTY- PREEMPTIVE (DRAW THE GANNT' CHART). Solve the waiting time and its average waiting time.

Gantt Chart:

P2	P0	P1	P0	P4	P2	P3
0 1	3		8	14	17	22 26

Process	Wait Time	End Time	Turn Around Time
P2	**0**	**22**	**22**
P0	**0**	**8**	**7**
P1	**0**	**3**	**0**
P4	**8**	**14**	**8**
P3	**17**	**26**	**21**

Average Waiting Time: 25 / 5 = 5

- ROUND ROBIN – QUANTUM= 3 (DRAW THE GANNT' CHART). Solve the waiting time and its average waiting time

Given:

Process	Arrival Time	Burst Time
P0	2	10
P1	0	5
P2	3	3
P3	5	9

Quantum = 3

Gantt Chart:

P1	P0	P2	P1	P3	P0	P3	P0	P3	P0
0	3	6	9	11	14	17	20	23	26 27

Process	Wait Time	End Time	Turn Around Time
P0	15	27	25
P1	6	11	11
P2	3	9	6
P3	12	26	21

Average Waiting Time: 36 / 4 = **9**