Assignment no :- 5

Scheduling algorithm

Consider the following processes :-

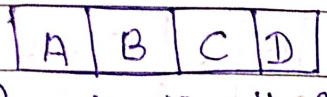
process	Arival time	Burst Time	Priority
A	0	1	3
B	1	9	3
C	3	1	2
D	3	9	1

Draw a Gantt chart to find finish times & also calculate TT (Turnaround Time) and WT (waiting time) in case of each of the following strategies :-

- FCFS
- SJF Non-Preemptive
- SJF Preemptive
- Round Robin (TS=1)
- Priority Non preemptive
- priority preemptive.

- Fiest come fiest Sceve.

antt choct →



P	FT	TT	WT
A	1	1	0
B	10	9	0
C	11	8	7
D	20	17	8

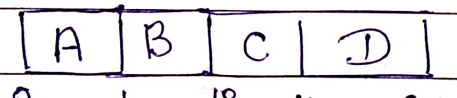
Avg waiting time $= \frac{0+0+7+8}{4} = \frac{15}{4} = \underline{\underline{3.75}}$

Avg TT $= \frac{1+9+8+17}{4} = \frac{35}{4} = \underline{\underline{8.75}}$

- Shortest Job Fiest (Non-Peeemptive)

Ready queue :- | C | D |

Gaintt choct :-



P	AT	TT	WT
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D	20	17	8

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Avg TT time $= \frac{1+9+8+17}{4} = \frac{35}{4} = \underline{\underline{8.75}}$

Shortest Job First - (Preemptive)

Burst remaining 7 1 9

Ready queue :- | B | C | D |

done. 3 0 0

Gantt :- | A | B | C | B | D |

0 1 3 4 11 20

Gantt chart :- | A | B | C | B | D |

0 1 4 5 11 20

P	FT	TT	WT
A	1	01	0
B	11	10	1
C	4	1	0
D	20	17	8

Avg waiting time :- $\frac{0+1+0+8}{4} = \underline{2.25}$

Avg turn around time :- $\frac{1+10+1+17}{4} = \underline{7.25}$

Round Robien (TS = 1)

Ready queue :- | B | C | D | B | D | B . . . .

Gant chart :- | A | B | B | C | D | B | D | B | D | B | D | B | D | B | D | B | D | B | D | D |

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

P	FT	TT	WT
A	1	1	0
B	18	17	8
C	4	1	0
D	20	17	9

Avg waiting time :- $\frac{0+8+0+9}{4} = \underline{4.25}$

Avg TT :- $\frac{1+17+1+17}{4} = \underline{9}$

PAGE No.
DATE / /

peioeity (Non-peemptive)

Grantt chost :- | A | B | C | D |
0 1 10 11 20

P	FT	TT	WT
A	1	1	0
B	10	9	0
C	11	8	7
D	20	17	8

Avg waiting time :- $\frac{0+0+7+8}{4} = \frac{15}{4} = 3.75$

Avg TT :- $\frac{1+9+8+17}{4} = \frac{35}{4} = 8.75$

peioeity (Peemptive)

Bust emain 7 1 9

Ready queue :- | B | C | D |
done 3 0 0

P	FT	TT	WT
A	01	01	0
B	11	10	1
C	4	1	0
D	20	17	8

Grantt chost :- | A | B | C | B | D |
0 1 3 4 11 20

Avg waiting time :- $\frac{0+1+0+8}{4} = 2.25$

Avg tuenound time :- $\frac{1+10+1+17}{4} = 7.25$