

# COMP 2004 Assignment - 4

@ FCFS

P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>
0	5	8	9	16
				20

SJF

P <sub>3</sub>	P <sub>2</sub>	P <sub>5</sub>	P <sub>1</sub>	P <sub>4</sub>
0	1	4	8	13
				20

Non-Preemptive Priority

P <sub>1</sub>	P <sub>5</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>2</sub>
0	5	9	10	17
				20

RR

P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>	P <sub>1</sub>	P <sub>2</sub>	P <sub>4</sub>	P <sub>5</sub>	P <sub>1</sub>	P <sub>4</sub>	P <sub>4</sub>
0	2	4	5	7	9	11	12	14	16	17	19
											20

q=2

(B)  $TAT = \text{Completion Time} - \text{Arrival time}$   
 $TAT = CT - AT$

$TAT_n$  means P<sub>n</sub> means nth process.

FCFS

$$TAT_1 = 5 - 0 = 5$$

$$TAT_3 = 9$$

$$TAT_5 = 20$$

$$TAT_2 = 8 - 0 = 8$$

$$TAT_4 = 16$$

$$TAT_{avg} = 11.6 \text{ ms}$$

SJF

$$TAT_1 = 13 - 0 = 13$$

$$TAT_3 = 1$$

$$TAT_5 = 8$$

$$TAT_2 = 4$$

$$TAT_4 = 20$$

$$TAT_{avg} = 9.2 \text{ ms}$$

Non-Preemptive Priority

$$TAT_1 = 5$$

$$TAT_3 = 10$$

$$TAT_5 = 9$$

$$TAT_2 = 20$$

$$TAT_4 = 17$$

$$TAT_{avg} = 12.2 \text{ ms}$$

RR

$$TAT_1 = 17$$

$$TAT_3 = 5$$

$$TAT_5 = 16$$

$$TAT_2 = 12$$

$$TAT_4 = 20$$

$$TAT_{avg} = 14 \text{ ms}$$



PCFS

$$\omega_{T_1} = 0$$

$$\omega_{T_3} = 8$$

$$\omega T_s = 16$$

WT<sub>2</sub> 25

WT<sub>4</sub> 29

~~WTAug~~ WTAug = 706

8JP WT, 2 8

$$WT_3 = 0$$

$$WTS = 4$$

$$\omega T_2 \approx 1$$

$$\omega_{T4} = 13$$

$$\omega_{Aug} = 5.2$$

von dem  $W_T = 0$

$$WT_3 = 9$$

WT525

$$\omega T_2 = 17$$

WT<sub>4</sub> = 10

$$W_{Tang} = 8.2$$

812

WT,  
~~FAF~~ = 12

WT<sub>3</sub>  
~~WT<sub>3</sub>~~ = 4

$$WT_5$$
  
~~FATS~~ = 12

W<sub>2</sub> ~~FAT~~<sub>2</sub> = 9

FAT<sub>42</sub> 13

$\omega T_4$

$$W T_{Aug} = 10$$

①

QJR

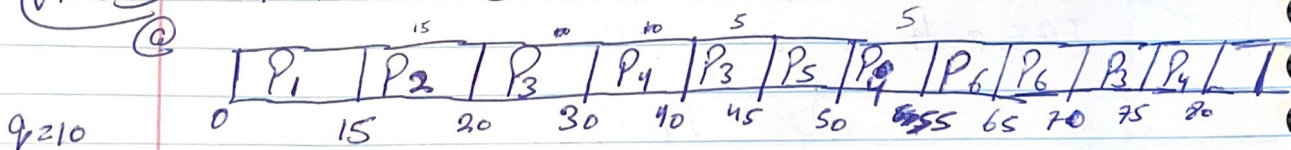
Result in minimum Aug time

$$W_{Tang} = 5.2 \text{ ms}$$

Aug 2

## GANTT CHART

2



B

TAT<sub>2</sub> CT-AT

$$TAT_1 = 15 - 0 = 15$$

$$TAT_0 = 95 - 0 = 95$$

$$T_A T_3 = 75 - 20 = 55$$

$$T_A T_y = 80 - 25 = 55$$

$PA T_S \approx 50 - 45 \approx 5$

$$TAT_6 = 70 - 55 = 15$$

P <sub>2</sub>	P <sub>3</sub>
80	90

61  
70  
55  
15



⑥

$$WT_1 = 15 - 15 = 0$$

$$WT_2 = 95 - 20 = 75$$

$$WT_3 = 55 - 20 = 35$$

$$WT_4 = 55 - 20 = 35$$

$$WT_5 = 5 - 5 = 0$$

$$WT_6 = \cancel{15} - 15 = 0$$