Score:_____ Name:_____

ECE 3055 Quiz - CPU Scheduling

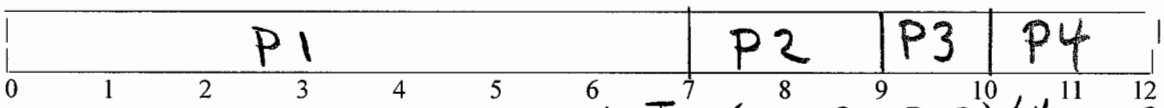
The following processes arrive for execution at the times indicated. Use preemptive scheduling for SRTF and RR. Base all decisions on the information you have at the time the decision is made. At arrival time, the burst execution time is known. For RR, assume a newly arrived process is in the ready queue just prior to its arrival time (i.e. it is already in the tail of the ready queue, just before the running process is stopped and added to tail of the ready queue at a time slice.)

Process	Arrival Time	CPU Burst or Execution Time
P1	0.0ms	7ms
P2	2.0ms	2ms
P3	4.0ms	1ms
P4	8.0ms	2ms

WT = (0+5+5+2)/4 = 3

TT = (7+7+6+4)/4 = 6

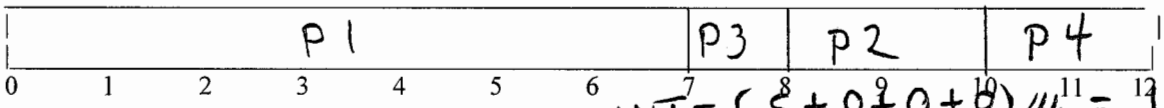
Draw a Gantt chart using FCFS:



WT = (0+6+3+2)/4 = 2.75

TT = (7+8+4+4)/4 = 5.75

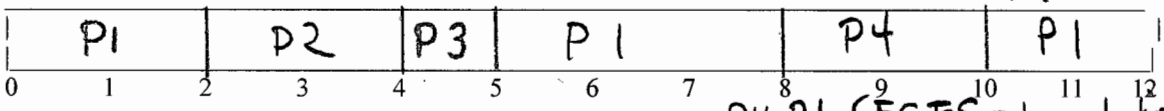
Draw a Gantt chart using SJF (no preemption):



WT = (5+0+0+0)/4 = 1.25

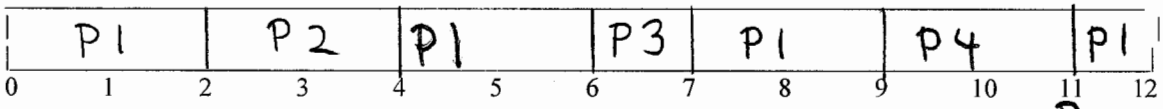
TT = (12+2+1+2)/4 = 4.25

Draw a Gantt chart using SRTF (preemption):



P4, P1 (FCFS = burst time)

Draw a Gantt chart using RR with time slice = 2ms:



Ready Queue: P2,P1 P1,P3 P3,P1 P1 P4,P1 P1

WT = (5+0+2+1)/4 = 2

TT = (12+2+3+3)/4 = 5

Fill in the table below (convert to **decimal – no fractions!**):

	Average Turnaround Time	Average Wait Time
FCFS	6	3
SJF (*no preemption*)	5.75	2.75
SRTF (*preemption*)	4.25	1.25
RR	5	2