Score:_____   Name:_____

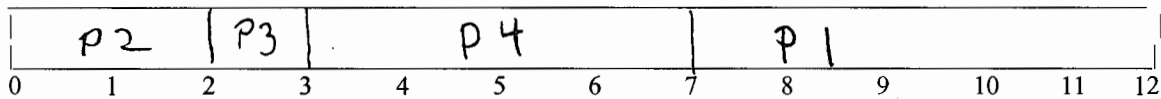## ECE 3055 Quiz – November 16, 2011

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 and SRTF, assume a newly arrived process is in the ready queue just prior to its arrival time (i.e. it is already in the ready queue just before a running process is stopped and added to tail of the ready queue at a time slice.) Fill in the time lines and the table and blanks at the bottom of the page.

Process	Arrival Time	CPU Burst or Execution Time
P1	0.0ms (first(i.e., head) in queue at t=0)	5ms
P2	0.0ms (second(i.e., end) in queue at t=0)	2ms
P3	2.0ms	1ms
P4	3.0ms	4ms

Draw a Gantt chart using FCFS:

```
|       P1        |  P2  | P3 |  P4        |
0   1   2   3   4   5   6   7 · 8   9   10  11  12
```
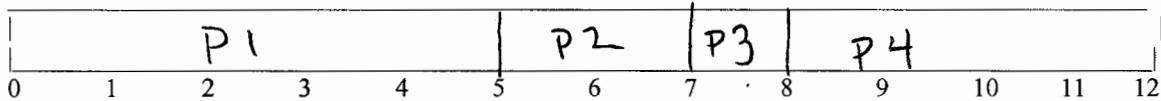
Draw a Gantt chart using SJF (no preemption):

```
|  P2   | P3 |    P4      |   P1          |
0   1   2   3   4   5   6   7   8   9   10  11  12
```

Draw a Gantt chart using SRTF:

```
|  P2   | P3 |    P4      |   P1          |
0 · 1   2   3   4   5   6   7   8   9   10  11  12
```
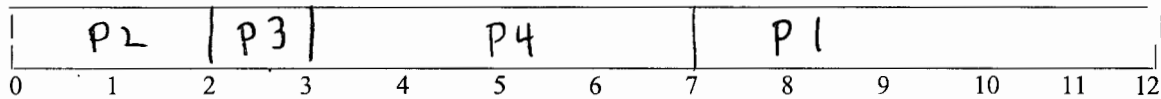
Draw a Gantt chart using RR with time slice = 1ms:

```
| P1 | P2 | P1 | P3 | P2 | P4 | P1 | P4 | P1 | P4 | P1 | P4 |
 0         2         3    4         6    7    8   9   10  11  12
```

P1   P2   P1   P3   P4   P4   P1   P4
P2   P1   P2   P2   P4   P4   P4   P1
         P3   P1   P1   P1
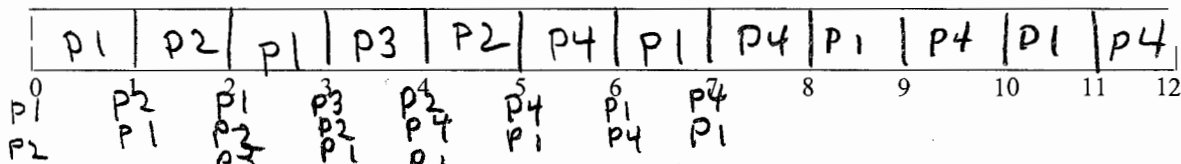
	Average Turnaround Time	Average Wait Time
FCFS	6.75	3.75
SJF (no preemption)	4.75	1.75
SRTF	4.75	1.75
RR	6.75	3.75

In general, the _____ R R _____ scheduling algorithm would typically have

the best response time, and the _____ S JF _____ non-preemptive scheduling algorithm would provide the optimal wait time.