This is a written assignment – please turn in your answers in a MS Word document or a text file. **Submit as an attachment in moodle**.

1) Define the term *starvation* and how it relates to priority scheduling.
   Explain how this problem can be solved. **(5 Points)**

2) Consider the following set of processes with the length of the CPU burst given in clock cycles:

Process	Burst Time	Priority	Arrival time
P1	10	3	0
P2	1	1	0
P3	5	5	0
P4	4	2	3
P5	3	0	3

   Draw a Gantt chart illustrating the execution of these processes using the **preemptive** version of Shortest Job First (shortest remaining time first) and a quantum of 2. **(10 points)**

   If a tie occurs between ready processes (they have the same amount of time left to run), then use the priority supplied.

3) For the system described in #2, compute the *average* Response time, turn-around time, and wait time **(10 points)**

4) Compute the *average **Response Time, Wait Time, and Turnaround Time*** using priority scheduling with a quantum of 3. Use *aging* such that each time a process is **passed up (when a decision made)**, its priority is increased 1 (the priority number is decreased by 1). Assume each process arrived at time 0. **Break ties by picking the process with the lowest process ID. (10 points)**

Process	Process ID	Priority	CPU Burst
P1	43	4	7
P2	13	6	6
P3	83	3	5

5) Explain how the size of the *quantum* used in Round Robin scheduling effects (a) response time, (b) CPU utilization **(5 points)**