

(1) Please describe the differences between preemptive scheduling and nonpreemptive scheduling.

(2) In the multilevel queue-scheduling algorithm, what is the advantages of using different size of time quantum in different layers?

(3)

Consider the following set of processes, with the length of the CPU burst given in milliseconds:

<u>Process</u>	<u>Burst Time</u>	<u>Priority</u>
P_1	10	3
P_2	1	1
P_3	2	3
P_4	1	4
P_5	5	2

The processes are assumed to have arrived in the order P_1, P_2, P_3, P_4, P_5 , all at time 0.

- Draw four Gantt charts that illustrate the execution of these processes using the following scheduling algorithms: FCFS, SJF, nonpreemptive priority (a smaller priority number implies a higher priority), and RR (quantum = 1).
- What is the turnaround time of each process for each of the scheduling algorithms in part a?
- What is the waiting time of each process for each of the scheduling algorithms in part a?
- Which of the algorithms in part a results in the minimum average waiting time (over all processes)?