Assignment – 2

1. What is Process? Give the difference between a process and a program.
2. Explain the Process State transition diagram.
3. Explain **Process Control Block (PCB)?**
4. Difference between process and thread.
5. What is scheduler? Explain queuing diagram representation of process scheduler with figure.
6. What is thread? Explain thread structure.
7. Explain process creation and process termination.
8. Explain types of thread.
9. Five batch jobs A to E arrive at same time. They have estimated running times 10, 2,6,8,4 minutes. Their priorities are 3, 2,5,4,1 respectively **with 5 being highest priority**. For each of the following algorithm determine mean process turnaround time. Ignore process swapping overhead. Round Robin (q=3), Priority Scheduling, FCFS, SJF.
10. Draw Four Gantt charts illustrating the execution of these processes using FCFS, SJF, priority **(a small priority number implies a higher priority**), and Round Robin (**quantum=1**) scheduling. Assume arrival order is: P1, P2, P3, P4, P5 at time 5, 3,4,2,0 respectively. Burst time for process P1,P2,P3,P4,P5 are 6 ,5,7,4,2 respectively. Priorities are: 5,2,1,3,4.
11. Five batch jobs A to E arrive at same time. Arrival time for each process 4,0,3,2,6 respectively. They have estimated running times 10,6,2,4 and 8 minutes. Their priorities are **3,5,2,1 and 4** respectively with 5 being highest priority. For each of the following algorithm determine mean process turnaround time. Ignore process swapping overhead. Round Robin, Priority Scheduling, FCFS, SJF. Time quantum is 2 time unit.
12. Assume arrival order is: P1, P2, P3, P4, P5 at time 0, 1,2,3,4 respectively and a smaller priority number implies a higher priority. Priorities are 3,2,0,1,4 respectively. They have estimated running times 10,8,9,6,7 time unit. Draw the Gantt charts for **preemptive and non-preemptive priority scheduling**. Calculate Average Turnaround Time and Average Waiting Time.