Assignment -1

1   Give the Difference between Multi-Programming, Multi-tasking , Multiprocessing System.

2   Write different operating system services.

4   What is an operating system? Give the view of OS as a resource manager.

5   What is system call? Explain the steps for system call execution.

7   Explain different types of OS and also Explain different types of tasks done by OS.

10   What is Kernel? Differentiate between Monolithic Kernel and Micro Kernel.

11   Define operating system. Explain the different views of operating system. Also explain types of operating system

12   Explain evolution of operating system in detail with suitable diagrams.

13   What is Process? Draw Five State Process Model and Explain it.

14   Consider Five Processes P1 to P5 arrived at same time. They have stimated running time 10,2,6,8 and 4 seconds, respectively. Their Priorities are 3,2,5,4 and 1, respectively with 5 being highest Priority. Find the average turnaround time and average waiting time for Round- Robin(q=3) and Priority Scheduling algorithm.

15   Explain process control block with diagram

16   Difference between process and thread.

17

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

Consider the following five processes with the length of the CPU burst time in milliseconds. Processes are Assumed to have arrived at time 0. Priority For the above set of processes find the average waiting time and average around time for each of the following scheduling algorithm using Gantt chart. Consider 1 is highest priority.
1. SJF
2. Non preemptive Priority
3. RR (Q = 2)

18   Following table gives arrival time and expected run time of five processes.

Process	Expected Run time (in sec.)	Arrival Time (in sec.)
A	8	1
B	1	4
C	2	2
D	1	5
E	5	6

Ignore process switching overhead. Find average turnaround time for following scheduling algorithm. Round robin (quantum = 1 sec), Shortest Job First.

19   Differentiate between preemptive and non-preemptive scheduling. Solve following by SJF preemptive and SRTF non-preemptive. Draw Gantt Chart, Average Waiting Time and Average Turnaround Time. Which one is better as per the average turnaround time?

Process	Arrival Time	Burst Time
P1	0	6
P2	1	4
P3	3	5
P4	5	3

20   Define the following terms.
Throughput, Waiting Time, Turnaround Time, Response Time, Short Term Scheduler, CPU Utilization

21   (i) Define process. Differentiate between a process and a program.
(ii) Explain different states of a process with a suitable diagram.

22   Explain threads in brief with its types. What is multithreading? Explain.

23   Explain SJF process scheduling algorithm with example

24   Give the Difference between Thread and Process
25   Write the difference between User level thread and Kernal-level thread.