



**Q. 4. Answer the following in detail. (Solve any 6) (30)**

1. Explain the following process with neat diagram;  
a) Multiprocessing b) Multiprogramming.
2. Explain the function of Operating System. List the different services of Operating System.
3. Explain in detail process control block?
4. Differentiate between Long term scheduler and short term scheduler
5. What is the process state and explain the various process states of a process.
6. Explain the following processes: a) Paging b) Swapping
7. Explain the Hierarchical model of file structure.

**Q. 5. Answer the following in detail. (Solve any 1) (10)**

1. If the CPU scheduling policy is priority preemptive, calculate the average waiting time and average turnaround time. (Higher number represents higher priority)

Process Id	Arrival time	Burst time	Priority
P1	0	3	2
P2	0	4	3
P3	2	3	4
P4	3	5	5
P5	4	4	5

2. Explain in detail the file system organization and file system mounting.
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