

II B.Tech II Sem CSE Operating Systems- Unit- II- Questions - A.Sanjeevaraju

1. Explain and give the differences in how much the following scheduling algorithms discriminate in favor of short processes. FCFS RR
2. Consider 3 processes P1, P2 and P3 which require 5, 7 and 4 time units and arrive at time 0, 1 and 3. Draw the Gantt chart, process completion sequence and average waiting time for.
 - a) Round robin scheduling with CPU quantum of 2 time units.
 - b) FCFS.
3. Describe the differences among long-term scheduling, short-term and medium term scheduling.
4. Describe the actions taken by a thread library to context-switch between user level threads.
5. Demonstrate Round Robin CPU scheduling algorithms with suitable example.
6. Consider the following five processes with the length of the CPU burst time in milliseconds.

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

Processes are assumed to have arrived at time 0.

For the above set of processes find the average waiting time and average turn around time for each of the following scheduling algorithm using Gantt chart. Consider 1 is highest priority:

- a) SJF b) Non Preemptive Priority
7. List and explain the Scheduling Algorithms.
 8. Explain the terms fork, exit, wait, waitpid, exec
 9. Consider the following set of processes, with the length of the CPU burst given in milliseconds:

Process	Burst Time	Priority
P1	27	5
P2	12	1
P3	37	2
P4	19	4
P5	10	3

The processes are assumed to have arrived in the order P1, P2, P3, P4, P5 all at time 0.

Draw the Gantt charts that illustrate the execution of these processes using the following scheduling algorithms: FCFS, SJF and Priority. Also determine the average waiting time and average turnaround time for each of the algorithms.

10. Differentiate between process and thread.
11. What is context switch?
12. What is Scheduler? Explain the queuing diagram representation of process scheduler with neat sketch.
13. Explain about the process control block with neat sketch.
14. Illustrate process creation on windows systems.
15. Distinguish between I/O bound process and CPU bound process.
16. What are the advantages of Inter Process Communication? How communication takes place in two fundamental models of IPC.
17. What are the criteria for evaluating the CPU scheduling algorithm?
18. Consider Five processes P1 to P5 arrived at same time. They have estimated 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 turn around time and average waiting time for Round Robin(q=3) and priority scheduling algorithm.

19. Based on the movement of process between the states; Explain types of scheduling?
20. Elaborate process state transitions with a neat diagram?

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