

3. Process A is running. We do a context switch to Process B. What is a context switch, what could cause it to happen, and what are the steps that must take place during the context switch?

4. Given the following processes with burst times and arrival times, show the Gantt chart for the three algorithms, Shortest Remaining Time First, First Come First Served, and Round Robin with a quantum of 3.

Process	Burst Time	Arrival Time
P1	7	0
P2	4	6
P3	1	8
P4	2	9
P5	5	10

5. For each Gantt chart of problem 4, a) compute average wait time, b) average response time and c) average turn-around time.

6. Explain the concept of memory protection, and why it is needed.

7. Describe the concept of a system call. What is it used for, and what is the physical mechanism used to make it happen?

8. What is a pthread mutex variable, and what is it used for?