

1.

a. **First Come, First Served (FIFO):**

Execution Order: p1, p2, p3, p4, p5

Execution Times: p1=10, p2=11, p3=14, p4=15, p5=17

Average Execution Time: 13.4

b. **Shortest Job First:**

Execution Order: p2, p4, p5, p3, p1

Execution Times: p1=17, p2=1, p3=7, p4=2, p5=4

Average Execution Time: 6.2

c. **Round Robin:**

Execution Order: p2, p4, p5, p3, p1

Execution Times: p1=17, p2=2, p3=10, p4=4, p5=8

Average Execution Time: 8.2

d. **Priority Scheduling:**

Execution Order: p2, p5, p1, p3, p4

Execution Times: p1=13, p2=1, p3=16, p4=17, p5=3

Average Execution Time: 10

2. This is a solid strategy. Because round robin is impartial, no process is given more time to run than another since they are all given the same amount of time. Situations where This strategy is not feasible is when the time quantum is too small and there are too many processes. Situations like these can cause process hunger where processes are constantly interrupted by other processes and are not given enough time to complete.

3. **Overall CPU Utilization:** $(25 + 30)/(50 + 75) = 44\%$.

The Schedulability Condition: Overall CPU utilization must be less than or equal to 100% for the system to be schedulable.

Since the overall CPU utilization of the system (44%) is less than 100%, the system is schedulable under the rate-monotonic scheduling algorithm.