Worksheet 03

1. Two processes, p1 and p2 arrive at time 0 and start executing using RR scheduling. (p1 starts before p2) The total CPU time of p1 is 30-time units, and p2 is 50. The quantum is Q = 10. The context switching time is S = 0. Find Turnaround Time (TT) of P1, P2 and Average Turnaround Time(ATT).

2. Two processes, p1 and p2 are executing using RR scheduling. The context switching time is S = 5.
    - Determine the maximum quantum size Q such that the gap between the end of a process pi's quantum and the start of pi's next quantum does not exceed M = 30 time units.
    - Determine the percentage of CPU time wasted on context switching.

3. Three periodic processes with the following characteristics are to be scheduled:(D is the period and T is the total CPU time).

    Determine if a feasible schedule exists.

    Determine how many more processes, each with T = 3 and D = 20, can run concurrently under EDF.

	D	T
p1	20	5
p2	100	10
p3	120	42

4. Three periodic processes with the following characteristics are to be scheduled: T is the CPU Time and D is the period of the process.

Case 1	T	D
p1	3	50
p2	70	1000
p3	5	40

Case 2	T	D
p1	15	50
p2	5	10
p3	1	4

Case 3	T	D
p1	5	20
p2	7	10
p3	4	100

For each case, determine if a feasible schedule is likely to be generated by:

- RM
- EDF

Draw the Gantt chart for the first 25-time units. For each of the 3 cases, show the schedules produced by RM and by EDF.