Mid Semester Examination **SYNOPTIC**

Max. Marks: 20   Class: FYMCA   Semester: II

Course Code: MCA21   Date: 02/03/2020

Subject: Operating System

Q1) a) Need=01 mark, listing=01 mark, Explanation=03 marks

Q2 a)
Gantt chart

P0		P1	P2	P3	P1	P0
0	1	3	5	9	13	22

Average Turnaround time= 10
Average waiting time=4.5

b) RMS gantt chart=02 marks, EDF Gantt chart=02 marks
 conclusion :Not schedulable using RMS and Schedulable using EDF(01 mark)

Q3 a) Clearly Defining Producer Consumer problem=01 mark
Semaphore declaration=01 mark
Codes with proper explanation=03 marks

OR

Explanation of how ME holds=02 marks
Explanation of how Deadlock=02 marks
ME and Deadlock both are achieved by the code (01 marks)

Q2 b) RMS & EDF.

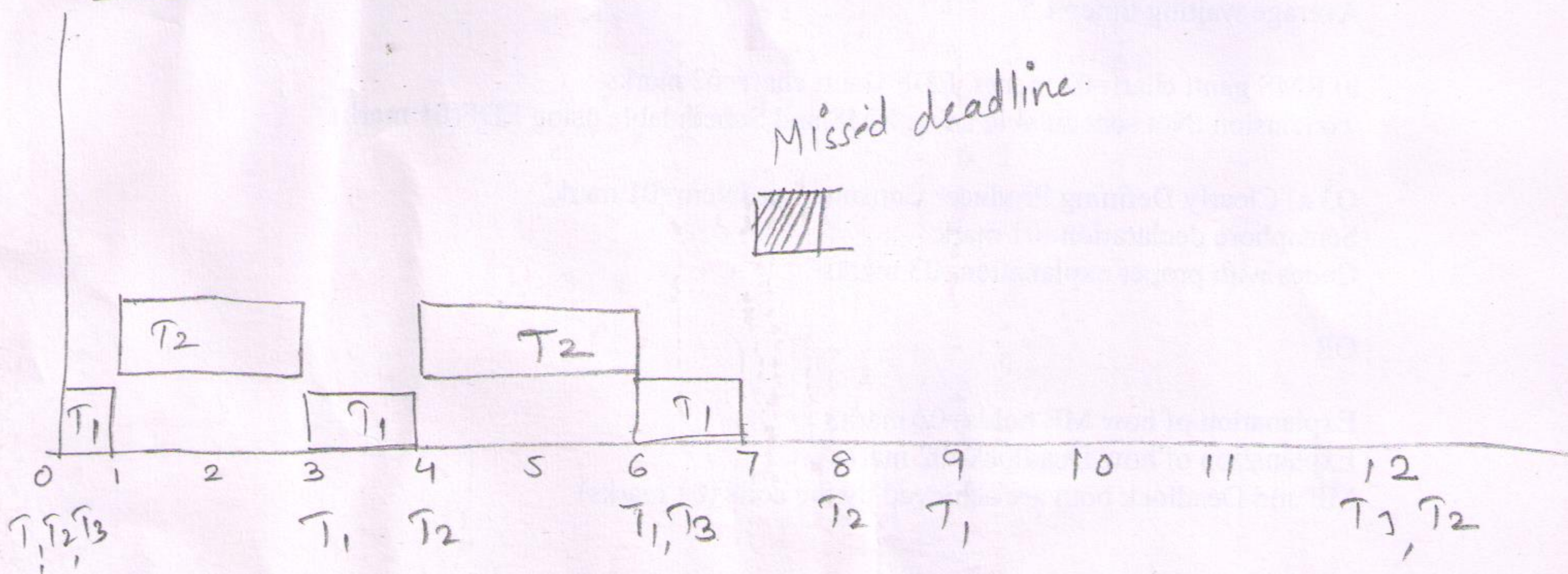| Task	ST	Period
T_1	1	3
T_2	2	4
T_3	1	6

RMS

Priority: $T_1 > T_2 > T_3$ (As per Period)
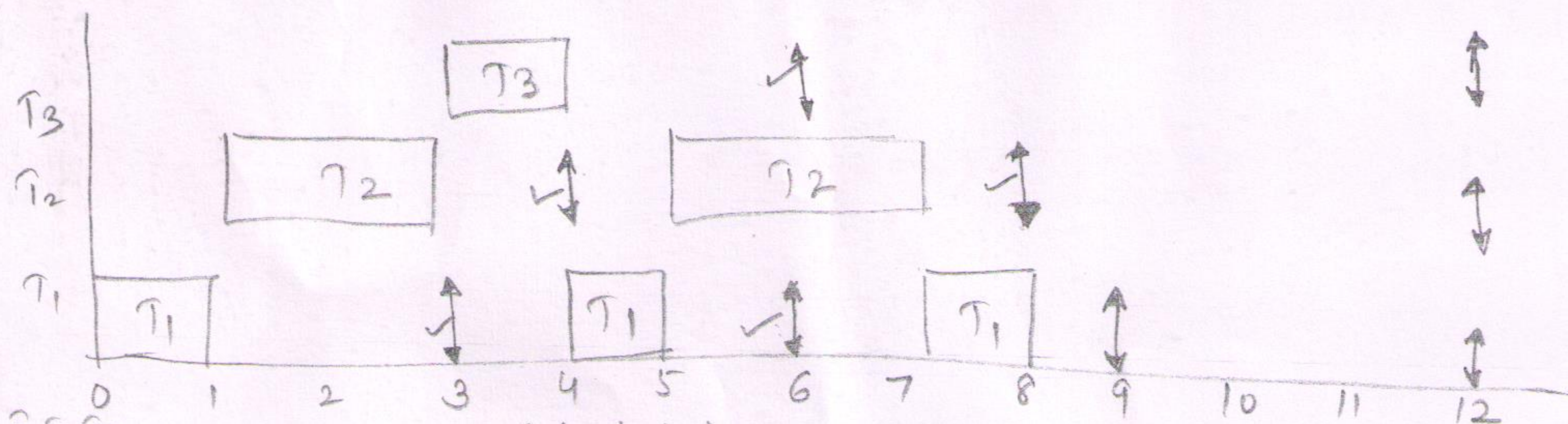
length of Hyperperiod = LCM (3, 4, 6)

$\qquad = 12$ (1 Marks)

$3 = 3 \times 1$
$4 = 2 \times 2 \times 1$
$6 = 2 \times 3$

RMS:

Missed deadline.

Not schedulable using RMS. (2 marks)

EDF

Schedulable using EDF (2 marks)   Conclusion =