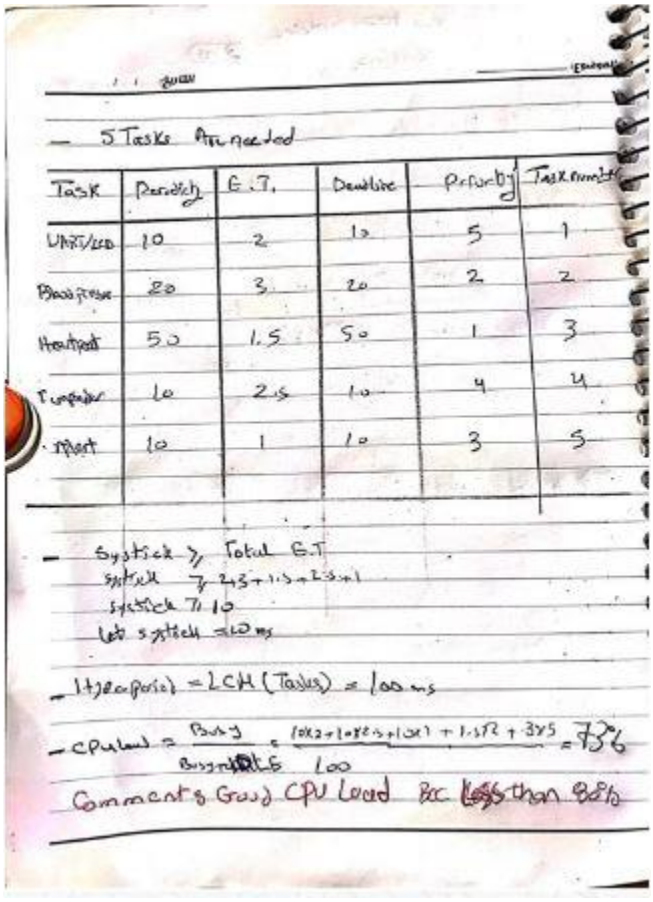
Task 3

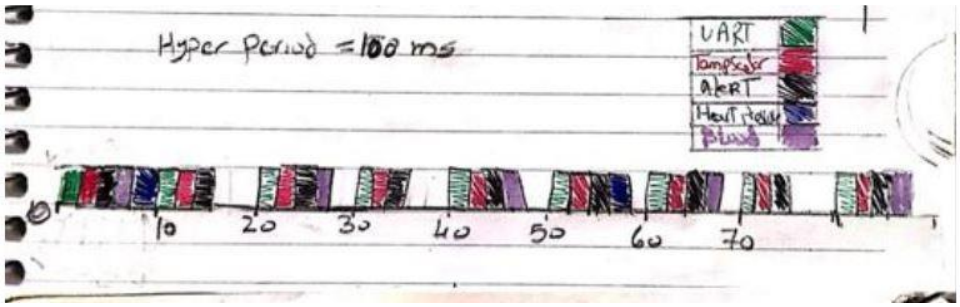


- 5 Tasks Are needed

Task	Periodic	E.T.	Deadline	Priority	Task number
UART/LED	10	2	10	5	1
Blood pressure	20	3	20	2	2
Heartbeat	50	1.5	50	1	3
Temperature	10	2.5	10	4	4
Alert	10	1	10	3	5

- Systick >/ Total E.T
  Systick >/ 2+3+1.5+2.5+1
  Systick >/ 10
  Let's Systick = 10 ms
- Hyperperiod = LCM (Tasks) = 100 ms
- CPU load = Busy / Busy+IDLE = (10x2+1x2+2x3+1x1+1.5x2+3x5)/100 = 73%
  Comment: Good CPU Load Bec less than 80%

Comment: the system is good design as the CPU load is 73% less than 80% so it is not heavily loaded.



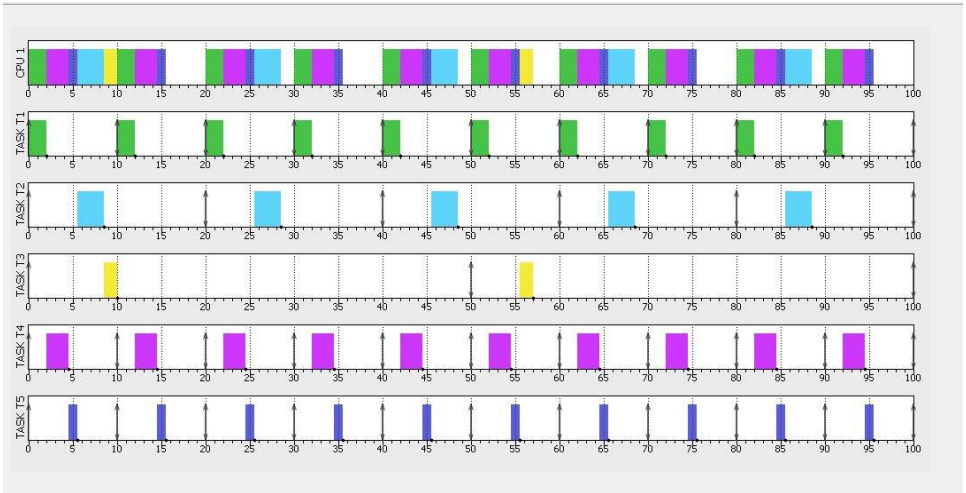
Comment: no task miss the deadline.

id	Name	Task type	Abort on miss	Act. Date (ms)	Period (ms)	List of Act. dates (ms)	Deadline (ms)	WCET (ms)	Followed by	priority
1	TASK T1	Periodic	No	0	10	-	10	2		5
2	TASK T2	Periodic	No	0	20	-	20	3		2
3	TASK T3	Periodic	No	0	50	-	50	1.5		1
4	TASK T4	Periodic	No	0	10	-	10	2.5		4
5	TASK T5	Periodic	No	0	10	-	10	1		3

Comment: using simso to confirm the results.

	Total load	Payload	System load
CPU 1	0.7300	0.7300	0.0000
Average	0.7300	0.7300	0.0000

Comment: results are the same as calculated manually.



Comment: same Gantt chart as drawn manually.