

1st REAL TIME SYSTEM ASSIGNMENTS FOR 5th Semester, CSE (Honours)-2018

- Q. 1. Distinguish between Soft, Hard and Firm Real Time System.
- Q. 2. What do you mean by fail state of a Real Time System?
- Q. 3. Is it true/false, a hard real time system application is made up of only hard real time task? Justify
- Q. 4. Define Periodic, Sporadic and Aperiodic Task.
- Q.5. what do you mean by scheduling point of a real time scheduler.
- Q.5. what do you mean by Jitter in real time task scheduling.
- Q.6. Give an example of a soft real time task and non-real time task. Explain the key difference between the characteristics of these.
- Q. 7. In a real-time system what is the difference between a performance constraint and behavioral constraint? Give example of each.
- Q. 8. Prove that major cycle of a tasks set $T = \{T_1, T_2, T_3 \dots T_n\}$ is the LCM of the periods of task i.e. $LCM(P_1, P_2, P_3, \dots, P_n)$ even when the task has arbitrary phasing.
- Q. 9. What are different constraint to select the appropriate frame size in cyclic scheduler, explain these in details?
- Q. 10. The minimum separation of the task arrival from the corresponding frame start time ($\min(\Delta t)$) considering all instances of task is equal to $GCD(F, P_i)$, prove it.

Q.11. A cyclic scheduler is used, for the following task set in a uniprocessor system.

Task	Excution Time	Period
T1	1	4
T2	1	5
T3	1	20
T4	2	20

Find the appropriate frame size, so that the given task set will be schedulable.

N: B-

- All the questions in 1st internal examination will be from this assignment only. However, the order and no. of questions in internal exam may vary. All students are need to submit this assignment within one week after the 1st internal examination. After the deadline no submission will be entertained.**

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