GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 730203   **Date: 26/12/2012**
Subject Name: Real Time Systems
Time: 10.30 am – 01.00 pm   **Total Marks: 70**
Instructions:
    1. **Attempt all questions.**
    2. **Make suitable assumptions wherever necessary.**
    3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What do you mean by Real time System? Explain its characteristics.	**07**
	(b)	Explain any two Real time Applications.	**07**
Q.2	**(a)**	Give the classification of Timing Constraint and Explain each with example.	**07**
	(b)	Compare Clock driven Schedulers with Event driven Schedulers.	**07**

OR

	(b)	A cyclic Scheduler is to be used to run the following set of periodic task on uniprocessor : T1=(1,4) T2=(2,5) T3=(5,20) select an Appropriate frame size. What will be the total utilization of a System	**07**
Q.3	**(a)**	Explain Priority inversion With Example.	**07**
	(b)	For given Periodic task	**07**

T1(2,0.9) T2(5,2.3)

i)What is the Total utilization of System?

ii)Construct EDF Schedule and show missed deadlines if any.

OR

Q.3	**(a)**	Explain RT-Linux in Detail.	**07**
	(b)	For given Periodic task T1(4,1) T2(5,2) T3(20,5)	**07**

i)What is the Total utilization of System?

ii)Construct RM Schedule and show missed deadlines if any.

Q.4	**(a)**	Explain the Issues Related with Real time Database.	**07**
	(b)	For given Periodic task T1(4,1,3) T2(5,2,4) T3(20,5)	**07**

i)What is the Total utilization of System?

ii)Construct DM Schedule and show missed deadlines if any.

OR

Q.4	**(a)**	Explain Temporal Consistency.	**07**
	(b)	For given Periodic task T1(4,1,3) T2(5,2,4) T3(20,5)	**07**

i)What is the Total utilization of System?

ii)Construct LST Schedule and show missed deadlines if any.

Q.5	**(a)**	Explain the Features of Real time Operating System.	**07**
	(b)	Explain the real time task with the Example.	**07**

OR

Q.5	**(a)**	Explain the different types of Networks in real time Communication.	**07**
	(b)	Explain Following terms:1)valid Schedule 2)Optimal Schedule 3)Quality of Service.	**07**

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