Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. IIND Semester Examination – June/July- 2011

Subject code: 1720710

Subject Name: Embedded System Design

Date:29/06/2011 **Time: 10:30 am – 01:00 pm**

Total Marks: 70

Instructions:

1. **Attempt all questions**
2. **Figure to the right indicate marks**
3. **Make suitable assumptions wherever necessary**

Q-1 Answer following

	(a)	What is embedded system? What are the design challenges?	**05**
	(b)	What is a Design metrics? List all design metric parameters. How to optimize design metrics?	**05**
	(c)	Write short note on: CAN	**04**

Q-2 Answer following

	(a)	Explain ARM Core architecture.	**07**
	(b)	Explain watchdog timer. Explain its applicability for ATM.	**07**

OR

Q-2 Answer following

	(a)	Write short note on: Applications of embedded systems	**07**
	(b)	Write short note on : USB	**04**
	(c)	What are the similarities between PCI bus and ARM bus protocols?	**03**

Q-3 Answer following

	(a)	Explain MTD model and architecture.	**07**
	(b)	Write short note on : Interfacing Techniques.	**07**

OR

Q-3 Answer following

	(a)	Explain interfacing of Graphic LCD.	**07**
	(b)	Why 'C' language is used for embedded programming?	**04**
	(c)	Explain GSM Modem and also explain AT commands.	**03**

Q-4 Answer following

	(a)	Write short note on : kernel structure of uCOSII	**07**
	(b)	What are the main features of real time OS?	**04**
	(c)	What is boot loader?	**03**

OR

Q-4 Answer following

(a)	Write short note on: Memory Management in uCOSII	**07**
(b)	Differentiate hard real time and soft real time systems	**04**
(c)	What is semaphore? What are its types?	**03**

Q-5 Answer following

(a)	Explain IPC in Linux	**05**
(b)	What are the types of device drivers in Linux? Explain each briefly.	**05**
(c)	Differentiate process and thread	**04**

OR

(c)	Explain various file systems	**04**

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