Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Subject code: 1720107 **Date: 05-06-2013**

Subject Name: Embedded System

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 is a Design Metric? List and explain all design metric parameters for embedded system.	**07**
	(b)	Explain Design Productivity Gap and What is meant by the ñmythical man-monthò giving a proper example.	**07**
Q.2	**(a)**	Draw and explain a basic architecture of a General-purpose Processor.	**07**
	(b)	1. Explain multi level bus architecture.	**04**
		2. What is the difference between Range and Resolution? Explain with an example.	**03**
		OR	
	(b)	Define and explain three main Design Technologies. How are each of the three different design technologies helpful to designers?	**07**
Q.3	**(a)**	Explain Serial transmission using UART.	**07**
	(b)	List and explain Cache Mapping Techniques.	**07**
		OR	
Q.3	**(a)**	Explain ADC with Successive Approximation method.	**07**
	(b)	What is an Embedded System? List the characteristics of it and explain all in detail.	**07**
Q.4	**(a)**	Explain Optimizing of Custom Single-Purpose Processor.	**07**
	(b)	Write a short note on all the types of RAMs.	**07**
		OR	
Q.4	**(a)**	Write a short note on a Simple Digital Camera and its requirement specification.	**07**
	(b)	Explain different types of Application-Specific Instruction-Set Processors in detail.	**07**
Q.5	**(a)**	Explain Arbitration using daisy-chain configuration in detail.	**07**
	(b)	Explain Register Banks and Stack of 8051 microcontroller.	**07**
		OR	
Q.5	**(a)**	Draw and explain functional block diagram of 8051 microcontroller.	**07**
	(b)	List all serial protocols and explain any two in detail.	**07**

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