Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME- SEMESTER–III • EXAMINATION – WINTER 2014

Subject Code: 730204 **Date: 27 /11 2014**

Subject Name: Embedded System

Time: **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)**	Explain all types of processor technology with respect to embedded system evolution?	**07**
	(b)	What is real time operating system? Discus difference between real time operating system and general purpose operating system.	**07**
Q.2	**(a)**	Describe optimization of FSMD with a suitable example?	**07**
	(b)	Explain role of assemblers, compilers, and linkers in IDE? What is preprocessor?	**07**
		OR	
	(b)	What is RISC? Compare RISC and CISC processor?	**07**
Q.3	**(a)**	Explain functional and non-functional requirement specification for digital camera example?	**07**
	(b)	Explain Petri net with its limitation? Draw a Petri net for reader and writer problem?	**07**
		OR	
Q.3	**(a)**	Write short note on cache memory and explain itôs significant in embedded system?	**07**
	(b)	Explain Hardware/Software co-simulation. What is the key method for speeding up such simulation?	**07**
Q.4	**(a)**	What are the challenges faced in designing embedded system?	**07**
	(b)	Draw and explain generic synthesis system used for embedded system design?	**07**
		OR	
Q.4	**(a)**	Compose 1K x 8 ROMs into an 8K x 8 ROM.	**07**
	(b)	Explain fault tolerant system and also write the pseudo-code for wait and signal operations	**07**
Q.5	**(a)**	What is embedded system? Explain its Characteristics and application?	**07**
	(b)	Draw design of general purpose processor & explain constituents of simple microprocessor architecture?	**07**
		OR	
Q.5	**(a)**	Draw and explain Software estimation model with its types?	**07**
	(b)	What is the issue to be considered for partitioning the system? Briefly explain types of partitioning?	**07**

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