Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–V • EXAMINATION – SUMMER • 2015

Subject Code: 2650012 **Date: 11-05-2015**

Subject Name: Software Development for Embedded Systems

Time: 02:30 pm to 05:00 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)**	List all types of Processors and Explain Datapath, Control Unit and Memory of General Purpose Processors.	**07**
	(b)	Write short note on Application-Specific Processors.	**07**
Q.2	**(a)**	Explain common design metrics of Embedded System.	**07**
	(b)	Draw Black-Box view and FSMD for GCD.	**07**
		OR	
	(b)	Explain Addressing modes in detail.	**07**
Q.3	**(a)**	Write short note on Timers and Counters.	**07**
	(b)	Explain Pulse Width Modulators in detail.	**07**
		OR	
Q.3	**(a)**	Explain LCD Controller in detail.	**07**
	(b)	Compose 1K X 8 ROM into 4K X 16 ROM	**07**
Q.4	**(a)**	What is cache memory? Explain Direct Mapping and Fully Associative Mapping with diagram.	**07**
	(b)	Explain Peripheral to Memory transfer with DMA and draw flow of action for it.	**07**
		OR	
Q.4	**(a)**	Write short note	
		1. Write ability and Storage Performance of Memory	**03**
		2. Protocol Control Methods : Strobe and Handshake	**04**
	(b)	Explain internal structure of CCD in Digital Camera.	**07**
Q.5	**(a)**	Define Emulator and Explain PROM programmers and ROM emulators for getting embedded software into the target system.	**07**
	(b)	Define following	**07**
		1. Host Machine 2. Target Machine 3. Cross Compiler 4. Cross Assembler 5. Linker 6. Locator 7. Address Resolution	
		OR	
Q.5	**(a)**	What is Instruction Set Simulator? Explain all abilities of Instruction Set Simulators.	**07**
	(b)	Discuss the Program Structure of Tank Monitoring System.	**07**

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