Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## MCA - SEMESTER- V• EXAMINATION - WINTER 2016

Sul	bject	Code: 2650012 Date:28/11/ 20	16
Subject Name: Software Development for Embedded Systems Time: 10.30 am to 01.00 pm Instructions:  Total Marks: 70			
	1. 2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a) (b)	What do you mean by Design Technology? In this context explain top-down design process and productivity improvers.  Explain Embedded software development process with proper diagram.	07 07
Q.2	(a) (b)	Design 3x8 decoder. Start from a truth table, use K-maps to minimize logic and draw the final circuit.  Draw FSMD of single-purpose processor for GCD.	07 07
	(b)	OR Explain the role of Cross-Compiler, Cross-Assembler and Linker/Locator for embedded software.	07
Q.3	(a) (b)	Explain basic architecture of general purpose processor.  Explain Microprocessor Interfacing using Interrupt-driven I/O.  OR	07 07
Q.3	(a) (b)	Explain PROM programmers and ROM Emulators for getting embedded software into the target system.  Describe tool chain for building embedded system.	07 07
Q.4	(a) (b)	Design Extended Parallel I/O Peripherals. Provide (i) a Statemachine description and (ii) a Structural Description. Write a short note on Logic Analyzers.	07 07
Q.4	(a) (b)	Briefly describe RT-Level Sequential Components and Sequential Logic Design.  Explain Pulse Width Modulator (PWM). Describe the application of PWM in controlling a DC Motor.	07 07
Q.5	(a) (b)	What are different methods of getting the image of the target software (for embedded systems) into the target system? Explain these methods.  Describe briefly In-circuit Emulators, and Software-only Monitors.  OR	07 07
Q.5	(a) (b)	Short note on Laboratory Tools. What you understand DOS based Program explain Overall Program Structure for DOS Program.	07 07

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