

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 FSM 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 5. Linker
2. Target Machine 6. Locator
3. Cross Compiler 7. Address Resolution
4. Cross Assembler
- 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**
