

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA - SEMESTER-V • EXAMINATION – SUMMER 2013****Subject Code: 650012****Date: 20-05-2013****Subject Name: Software Development for Embedded Systems****Time: 02.30 pm - 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) Define Following Terms:- **07**
1. Unit cost
 2. Transistors
 3. Decode Instruction
 4. System call
 5. Time to market
 6. nMOS transistor
 7. interrupt Service routine
- (b) Explain following:-
1. Design Technology **02**
 2. Sequential Logic **02**
 3. Testing and debugging **03**
- Q.2** (a) Explain Short note and Define :
1. Characteristics of Embedded System **03**
 2. Optimizing the FSM **03**
 3. What is Cache Memory [define only] **01**
- (b) Define Watchdog Timers? Explain with ATM Timeout Example **07**
- OR**
- (b) What is Real time Clock? Explain functionality of Real time clock also discuss Application of Real time clock **07**
- Q.3** (a) Explain Memory write and storage ability for different types RAM and ROM also justify what is the difference between volatile and nonvolatile memory **07**
- (b) Explain Microprocessors Interfacing I/O Addressing **07**
- OR**
- Q.3** (a) Contrast between OTP ROM and EPROM also discuss NVRAM **07**
- (b) Short note on DMA for Microprocessor interfacing **07**
- Q.4** (a) Explain Requirement Specification for Digital Camera also draw the block diagram for digital Camera **07**

- (b) What is Host and Target Machine give the idea about how target machine run what exactly required to run target machine run 07

OR

- Q.4** (a) Explain Design for Digital Camera also draw first implementation for block diagram for design digital camera 07

- (b) Discuss Getting Embedded Software into the target System 07

- Q.5** (a) Define Simulators? Discuss various useful abilities for Simulators 07

- (b) What you understand DOS based Program explain Overall Program Structure for DOS Program 07

OR

- Q.5** (a) Short note on Laboratory Tools 07

- (b) Discuss DBGMAIN.C and DISPLAY.C Modules for Tank Monitoring System 07
