

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA - SEMESTER-V • EXAMINATION – WINTER • 2014****Subject Code: 2650012****Date: 08-12-2014****Subject Name: Software Development for Embedded Systems****Time: 10:30 am - 01:00 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) Write short note on IC Technology. **07**
(b) List and explain common design metrics. **07**
- Q.2** (a) Draw and explain basic architecture of General Purpose Processor **07**
(b) Design sequential circuit for 3 bit counter that counts the sequence: 1, 3, 5, 7, 0, 2, 4, 6, 1, 3, ... **07**
- OR**
- (b) Write short note
1. Pipelining **03**
2. Addressing modes **04**
- Q.3** (a) What is cache mapping? List all types of cache mapping techniques and explain any two in detail with diagram. **07**
(b) Explain Analog to Digital Converter in detail. **07**
- OR**
- Q.3** (a) Write short note
1. Keypad Controller **03**
2. UART **04**
(b) Compose 1K X 8 ROM into 2K X 16 ROM **07**
- Q.4** (a) Explain bus structure with basic protocol concepts of Strobe and Handshake. **07**
(b) Explain Interrupt-driven I/O using Vector interrupt with flow of action. **07**
- OR**
- Q.4** (a) Write short note
1. Firewire **02**
2. Daisy Chain Arbitration **05**
(b) Explain requirements specification of Digital Camera. **07**
- Q.5** (a) Explain PROM programmers and ROM emulators for getting embedded software into the target system. **07**
(b) Explain tool chain for building embedded software. **07**
- OR**
- Q.5** (a) Explain instruction set simulators. **07**
(b) Explain DBGMAIN.C, LEVELS.C and OVERFLOW.C. **07**
