

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Subject code: 1720107**Date: 05-06-2013****Subject Name: Embedded System****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)** What is a Design Metric? List and explain all design metric parameters for embedded system. **07**
- (b)** Explain Design Productivity Gap and What is meant by the mythical man-month giving a proper example. **07**
- Q.2 (a)** Draw and explain a basic architecture of a General-purpose Processor. **07**
- (b)** 1. Explain multi level bus architecture. **04**
 2. What is the difference between Range and Resolution? Explain with an example. **03**
- OR**
- (b)** Define and explain three main Design Technologies. How are each of the three different design technologies helpful to designers? **07**
- Q.3 (a)** Explain Serial transmission using UART. **07**
- (b)** List and explain Cache Mapping Techniques. **07**
- OR**
- Q.3 (a)** Explain ADC with Successive Approximation method. **07**
- (b)** What is an Embedded System? List the characteristics of it and explain all in detail. **07**
- Q.4 (a)** Explain Optimizing of Custom Single-Purpose Processor. **07**
- (b)** Write a short note on all the types of RAMs. **07**
- OR**
- Q.4 (a)** Write a short note on a Simple Digital Camera and its requirement specification. **07**
- (b)** Explain different types of Application-Specific Instruction-Set Processors in detail. **07**
- Q.5 (a)** Explain Arbitration using daisy-chain configuration in detail. **07**
- (b)** Explain Register Banks and Stack of 8051 microcontroller. **07**
- OR**
- Q.5 (a)** Draw and explain functional block diagram of 8051 microcontroller. **07**
- (b)** List all serial protocols and explain any two in detail. **07**
