

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – II • EXAMINATION – WINTER 2012

Subject code: 1720107**Date: 02/01/2013****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) Explain stepper motor controller in detail. 07
(b) List the types of ADC. Explain any one of them in detail. 07
- Q.2** (a) Explain direct memory access in detail. 07
(b) Explain any two serial protocols in detail. 07
- OR**
- (b) Explain UART with necessary block diagrams. 07
- Q.3** (a) Explain the importance of cache memory in embedded system design. 07
(b) Explain key pad controller in detail. 07
- OR**
- Q.3** (a) Give classification of memory with importance of each in short. 07
(b) Explain register banks and stack of 8051 microcontroller. 07
- Q.4** (a) Explain processes and threads in detail. 07
(b) Explain reader writer problem. 07
- OR**
- Q.4** Give analysis of all possible combination of digital camera example in detail. 14
- Q.5** (a) List design metrics parameters for embedded system and explain any one of them in detail. 07
(b) Enumerate the microprocessor selection criteria for embedded application. 07
- OR**
- Q.5** (a) Explain the functional block diagram of 8051 microcontroller. 07
(b) Explain starvation and atomicity in detail. 07
