

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Sem. – IInd - Examination – June/July- 2011

Subject code:1722906

Subject Name: Embedded and Real Time system

Date:29/06/2011

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 function block diagram of 8051 microcontroller 07
(b) List types of processor and explain basic architecture, operation and design of any one processor 07
- Q.2** (a) Explain design challenges and optimizing design metrics related to Embedded systems 07
(b) Explain various addressing modes of 8051 microcontroller with suitable example 07
- OR**
- (b) Explain in brief semaphores-deadlock-process and stack management 07
- Q.3** (a) Write short note on IC technology & design technology 07
(b) Explain interfacing of ADC and DAC with microcontroller 07
- OR**
- Q.3** (a) What is Embedded systems? Explain An embedded system with example. 07
(b) Explain architecture of PIC(16F72) processor in detail 07
- Q.4** (a) Explain interfacing of Keyboard and LED display with 8051 microcontroller. 08
(b) Explain round robin primitive rate monolithic foreground and background systems. 06
- OR**
- Q.4** (a) Explain Timers and various timer modes of 8051 microcontroller. 08
(b) Explain Concept of Real Time system with suitable example 06
- Q.5** (a) Explain USART and PWM interfacing. 08
(b) Explain I/O ports of microcontroller 06
- OR**
- Q.5** (a) Explain following application of microcontroller : 08
(1) Speed control of DC motor and (2) Stepper motor control
(b) Explain RISC concepts with suitable example. 06
