

GUJARAT TECHNOLOGICAL UNIVERSITY
Diploma Engineering Semester –V Examination Dec’11- Jan’12

Subject code: 350301/2350301**Date: 20/12/2011****Subject Name: Micro Controller & Its application in Medical Instrumentation****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.
4. English version is considered Authentic.

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|-------------|--|-----------|
| Q.1 | (a) Comparison between microprocessor and micro controller | 07 |
| | (b) Draw and explain internal RAM structure of 8051. | 07 |
| Q.2 | (a) Draw and explain block diagram of internal architecture of 8051 microcontroller. | 07 |
| | (b) Draw and explain internal port 0 circuit. | 07 |
| | OR | |
| | (b) Draw and explain timer/counter control logic | 07 |
| Q.3 | (a) Explain in brief interrupt with vector addresses. | 07 |
| | (b) Explain internal memory organization of 8051 | 07 |
| | OR | |
| Q.3 | (a) Draw port structure of all I/O ports and explain their characteristics. | 07 |
| | (b) Explain addressing modes of 8051 with example. | 07 |
| Q.4 | (a) Explain following instructions. | 07 |
| | (i) XCHD A, @RP (02) | |
| | (ii) CPL A (02) | |
| | (iii) ANL P0, 0FH (02) | |
| | (iv) ADD A, #22H (01) | |
| | (b) Count number of 1's in a given number in B, store count in R0. | 07 |
| | OR | |
| Q. 4 | (a) To rotate DPTR one time left. | 07 |
| | (b) To add two decimal Nos in address 22H and 23H store answer decimal in 24H. | 07 |
| Q.5 | (a) Explain interfacing of LCD display with 8051 microcontroller with interfacing diagram and program. | 07 |
| | (b) Serial data communication. | 07 |
| | OR | |
| Q.5 | (a) Look up table technique. | 07 |
| | (b) Interface keyboards to 8051 based micro controller. | 07 |
