

**B.Tech. – VIEP – ELECTRICAL ENGINEERING  
(BTELVI)**

00986

**Term-End Examination**

**June, 2014**

**BIEE-010 : MICRO-CONTROLLERS**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Answer any *seven* questions. All questions carry equal marks.

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1. Draw and explain RISC and CISC CPU architecture. 10
2. List the five addressing modes of 8051 microcontroller with suitable examples. 10
3. Assume that 5 BCD data items are stored in RAM locations, starting at 40H, write a program to find the sum of all the numbers. The result must be in BCD.  
40 = (71)                      43 = (59)  
41 = (11)                      44 = (37)  
42 = (65) 10
4. Write a program to toggle all the bits of port 1 by sending to it the values 55H and AAH continuously. Put a time delay in between each issuing of the data to port 1. 10
5. Write an 8051 C program to toggle the bits of P1 ports continuously with a 250 ms delay. 10

6. Discuss different modes of transfer used in serial communication. 10
7. List reasons that LCD's are gaining widespread use, replacing LED's, and describe the functions of the pins of a typical LCD. 10
8. Explain the working principle of stepper motor and also interface it to 8051 micro-controller. 10
9. Write short notes on any **two** of the following :  $2 \times 5 = 10$ 
  - (a) RS - 232
  - (b) RISC
  - (c) PWM

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