

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

Term-End Examination

December, 2014

00175

BIEE-010 : MICRO-CONTROLLERS

Time : 3 hours

Maximum Marks : 70

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

1. Explain Harvard and Von-Neumann CPU architecture with neat sketch. 10
2. Explain the 8051 micro-controller architecture with neat sketch. 10
3. Assume that RAM locations 40 – 44 have the following values. Write a program to find the sum of the values. At the end of the program, register A should contain the low byte and R7 the high byte. All values are in hexadecimal.

40 = (7D)

41 = (EB)

42 = (C5)

43 = (5B)

44 = (30)

10

4. What are conditional and unconditional jumps ? Explain briefly. 10
 5. Write an 8051 C program to get a byte of data from P1, wait 1/2 second, and then send it to P2. 10
 6. Write a program to send the text string "Hello" to serial #1. Set the baud rate at 9600, 8-bit data, and 1 stop bit. 10
 7. What is an interrupt ? How many interrupts are there in 8051 micro-controller ? Explain enabling and disabling an interrupt phenomenon. 10
 8. Explain the basic operation of a keyboard and interface it with 8051 micro-controller. 10
 9. Describe the parallel and serial ADC and draw a neat diagram of Interfacing between 8051 and ADG0848. 10
 10. Write short notes on any *two* of the following : $2 \times 5 = 10$
 - (a) TCON
 - (b) PUSH and POP opcodes
 - (c) Indexed Addressing mode
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