DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING (DECVI) / ADVANCED LEVEL CERTIFICATE COURSE IN ELECTRONICS AND COMMUNICATION ENGINEERING (ACECVI)

00881

Term-End Examination
December, 2012

BIEL-031 : MICRO CONTROLLER

Time : 2 hours   *Maximum Marks : 70*

Note :   *(i) Attempt **any five** questions. Question number **1** is*
        compulsory..

        *(ii)All questions carry **equal marks**.*

Attempt the following objective type questions :

1. (a) 8085 microprocessor is having data lines $2 \times 7 = 14$

        (i)   8   (ii) 16   (iii) 24   (iv)   4

    (b) ALU stands for

        (i)   Arithmetic logic unit

        (ii)   Accumulator logic unit

        (iii) Arithmetic large unit

        (iv) None

    (c) The 8051 has number of counters

        (i)   Two 8 bit   (ii)   One 32 bit

        (iii) Two 16 bit   (iv)   None

    (d) RISC stands for Reduced instruction set
        computers (True/ False)

    (e) The internal RAM size of 8051
        microcontroller is 128 bytes. (True/ False)

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(f) The description of ADDC A, Rn is add register to accumulator. (True/ False)

(g) Some micro controllers have the facilities of A/D or D/A conversion. (True/False)

2. (a) Explain synchronous input/output data transfer and asynchronous input/out put data transfer. Also write the difference between the above two transfer schemes.

(b) What are the overheads 'associated' with interrupt-driven input-output and how are they reduced by using DMA. **7x2=14**

3. (a) Explain the interfacing of 8085 with 8255.
   7x2=14
   (b) Draw the pin diagram of 8085.

4. (a) Explain the Harvard and Von Neumann architecture of processors. **7x2=14**

   (b) Explain PIC microcontroller.

5. (a) What is the function of the following pins :
   7x2=14
   (i) R X D   (ii) $\overline{INTO}$

   (iii) T_1 (iv) $\overline{PSEN}$

   (b) Explain the special function registers in 8051.

6. (a) Explain the Register addressing, Direct addressing and Immediate addressing, mode of 8051 microcontroller system with the help of example.   **7x2=14**

    (b) Describe the given instructions.

        (i)   MOV Rn, A

        (ii) INC DPTR

        (iii) PUSH Direct

        (iv) SWAP A

7. (a) What are the functions of the assembler and linkers ?   **7x2=14**

    (b) What do you mean by software simulation of 8051? Explain it.

8. Write short notes on *any four*.   **3.5x4=14**

    (a) STACK pointer

    (b) Register Indirect addressing mode

    (c) Program memory of 8051

    (d) Boolean Processor

    (e) 8 bit and 16 bit microcontroller

    (f) Evaluation of Microcontroller.