EX–502(N)

B. E. (Fifth Semester) EXAMINATION, June, 2010

(New Scheme)

(Electrical and Electronics Engg. Branch)

MICROPROCESSOR & MICROCONTROLLER

[EX–502(N)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note :   Attempt all the *five* questions.

Unit—I

1. (a) Describe the architecture of 8086 microprocessor.   10

   (b) What are the important features of 80386 ? In what ways does it differ from 80286 ? What are the applications of 80386 ?   10

Or

   (a) Explain the memory interfacing in 8086.   10

   (b) Draw and explain the timing diagrams of input and output transfer of 8086 in maximum mode.   10

Unit—II

2. (a) Write an assembly language program for addition of two 32-bit numbers.   10

   (b) What is the function of assembler directives ? Explain the following assembler directives :   10

   (i)   DB

(ii) EXTRN

(iii) PROC

(iv) PUBLIC

Or

(a) Write an 8086 assembly language program to generate a delay of 1 minute if 8086 system frequency is 10 MHz.   10

(b) Explain the function of the following instructions of 8086 :   10

(i) XLAT

(ii) LOCK

(iii) PCHL

(iv) CMPSB

(v) LES

Unit – III

3. (a) Discuss the organization and architecture of 8251 (USART) with the functional block diagram.   10

(b) Draw the explain the functional block diagram of an 8254 programmable interval timer.   10

Or

(a) Draw and explain the interfacing of 8 bit ADC with 8086 microprocessor.   10

(b) Discuss the architecture of PPI 8255 and illustrate the different modes of operation of 8255   10

Unit – IV

4. (a) Explain the interrupt structure and interrupt priorities of 8051 microcontroller.   10

(b) Write an assembly language program to convert 8-bit binary number to BCD number.   10

Or

(a) Explain the addressing modes of 8051 with the help examples.

(b) Explain the instruction of 8051 used to :

(i) Access external RAM

(ii) Addition

(iii) Subtraction

(iv) Jump

Unit – V

5. (a) Explain the 8051 based thyristor firing circuit.   10

(b) Draw and explain the interfacing of stepper motor to 8051.   10

Or

Write short notes on the following :   10 each

(a) Timer functions of 8051

(b) Interfacing of 8051 to DAC

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