

Total No. of Questions : 5] [Total No. of Printed Pages : 3

Roll No.

EX-502(N)

B. E. (Fifth Semester) EXAMINATION, Dec., 2009

(New Scheme)

(Electrical and Electronics Engg. Branch)

MICROPROCESSOR AND MICROCONTROLLER

[EX-502(N)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all the five questions.

Unit – I

1. (a) Give the comparative study of features of 8086, 80286 and 80386 microprocessors. 10
- (b) Draw neatly the pin configuration of 8086 microprocessor. 10

Or

Write notes on the following :

- (i) Minimum mode of 8086 10
- (ii) Interrupts in 8086 10

Unit – II

2. (a) State and explain the different instruction formats of 8086. 10
- (b) Write an 8086 assembly language program to calculate factorial of a given number. 10

P. T. O.

Or

- (a) What are the different addressing modes supported by 8086 ? Explain with suitable example. 10
- (b) Write short notes on the following : 10
- Subroutine call and return
 - Stack structure of 8086

Unit – III

3. (a) Draw and discuss the architecture of 8257 (DMA Controller). 10
- (b) Give the comparison between memory mapped I/O and I/O mapped I/O. 10

Or

- (a) Write an initialization program to transfer 2000 bytes of data from memory to peripheral. The starting address in memory is 25 A0H. After the transfer DMA operation should be terminated. Use memory mapped I/O. 10
- (b) Discuss the interfacing of 8254 with 8086 microprocessor in memory mapped I/O. 10

Unit – IV

4. (a) Identify the addressing mode used by each of the following instruction : 10
- MOV A, R4
 - MOV a, # 30H
 - ADD A, 40H
 - SWAP A
- (b) Write a note on memory organization of 8051 microcontroller. 10

Or

- (a) Explain the following instructions of 8051 : 10
- PUSH and POP
 - CALL and RET
- (b) Write short notes on the following : 10
- Port structure and operation of 8051 microcontroller.
 - Interrupt structure and interrupt priorities of 8051 microcontroller.

Unit – V

5. Explain the interfacing of ADC with 8051 using 8255 and write an assembly language program to convert and read equivalent digital data from ADC. 20

Or

Write short notes on the following :

- Serial communication modes of 8051 10
- Stepper motor interfacing 10