Roll No ....

EI - 501
B.E. V Semester
Examination, December 2015

Microprocessor And Microcontroller

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) What is the need for timing diagram?

b) What is difference between hardware and software interrupt?

c) What is masking and why is it needed?

d) Describe the sequence of events that may occur during different T state in Opcode fetch machine cycle of 8086.

OR

Give functions of NHI, BHE and TEST pins of 8086.

Unit - II

2. a) Logic calculations are done in which type of registers?

b) What are assembler directives?

c) List various addressing modes of 8086.

d) Write an assembly language program to add two BCD number.

OR

Write an assembly language program to separate out even and odd numbers from a given series of 16-bit hexadecimal numbers.

Unit - III

3. a) What is the function of BSR mode in PPI8255?

b) Compare serial and parallel communication.

c) Explain DMA process.

d) Draw the block diagram and explain the operation of 8251 serial communication interface.

OR

Discuss the interfacing of any 8 bit ADC with 8086 microprocessor.

Unit - IV

4. a) Write the function of following instructions :
    i) CALL   ii) JMP   iii) DJN2

b) Explain two indirect indexed instructions of 8051.

c) Explain the memory organization of 8051.

d) Write an assembly program to convert two digit BCD number to hexadecimal number.

OR

Write an assembly program to evaluate the factorial of an integer number N using recursive procedure.

Unit - V

5. a) List the modes of functioning of Timers/Counters in 8051.

b) Give the format of SCON in 8051.

c) What is band rate? Explain various band rates in 8051.

d) With the help of a diagram, explain how a stepper motor can be interfaced with 8051?

OR

Explain serial communication in 8051. What are various modes and registers used in it?

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