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

Roll No ....

EC - 504

B.E. V Semester

Examination, December 2014

Microprocessors and Microcontrollers

Time : Three Hours

Maximum Marks : 7

Note: i) Answer five questions. In each question part A, B, C i
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 I
(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 maximum memory size that can be addresse(
by 8086?

b) What are the functions of BIU in 8086?

c) What are the two modes of operations present in 8086'
Explain.

d) Explain the internal block diagram of 8086?

OR

Draw the structure of 8086 flag register and explain the
function of flags with examples.

Unit - II

2. a) What is the SIM and RIM instruction?

b) What is the position of stack pointer after the POF
instruction?

c) What are the various types of multiprocessor configurations?

d) Write an 8086 program to convert BCD data to Binary data.

OR

Write an assembly language program to convert an array
of ASCII code to corresponding binary (hex) value. The
ASCII array is stored starting from 4200 H.

Unit - III

3. a) What are the applications of 8253?

b) What is the use of USART?

c) What are the display modes supported by 8279 chip?
Explain.

d) Describe the architecture and working of 8253 timer.

OR

Give the format of program clock word of 8279 and
mention its purpose.

Unit - IV

4. a) Name two modes of operation of DMA controller.

b) What is the need of interrupt controller?

c) What do you mean by maskable and nonmaskable interrupts?

d) Draw the block diagram of programmable Interrupt
controller and explain its operation.

OR

Draw the block diagram of DMA controller and explain
its operations.

Unit - V

5. a) Differentiate between microprocessor and
microcontroller?

b) List the addressing modes of 8051.

c) Draw the pin diagram of 8051 and explain function of:
i) ALE
ii) RX and TX pin.

d) Explain the memory structure of 8051.

OR

Explain the instruction set of 8051?

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