Code : 031511

B.Tech 5th Semester Exam., 2015

MICROPROCESSOR AND ITS APPLICATIONS

Time : 3 hours   Full Marks : 70

Instructions :

(i) The marks are indicated in the right-hand margin.

(ii) There are **NINE** questions in this paper.

(iii) Attempt **FIVE** questions in all.

(iv) Question No. **1** is compulsory.

1. Explain any *seven* of the following :   2×7=14

    (a) CMP B

    (b) XTHL

    (c) DAA

    (d) CALL 16-bit address

    (e) EI

    (f) RIM

    (g) SIM

    (h) JMP 16-bit address

    (i) RST0

    (j) CPI 8-bit

(**2**)

2. (a) Explain the function of READY pin 8085.

    (b) Interface an 8K ROM and a 2K RAM with 8085 (take starting address of RAM 2000H).   4+10=14

3. (a) Show the timing diagram of LDA 2000H.

    (b) What do you understand by FEO? Explain by giving suitable examples.   8+6=14

4. (a) Discuss addressing modes available with 8085 by giving suitable examples.

    (b) Explain the classifications of 8085 instructions.   8+6=14

5. (a) Write a delay subroutine if processor is running at 1 MHz.

    (b) A data array is residing in location starting from 2401H. The length of data array is given in BCD at 2400H. WAP to find out the total number of BCD bytes in the data array store the count of BCD bytes in location 2500H.   6+8=14

6. (a) Write down the control word of 8255 PPI and explain the meaning of each bit.

   (b) An 8-bit ADC with analog input is connected to port A of 8255. PC_0 and PC_7 are to be used for SOC and EOC. WAP to input the ADC data from port A and reconstruct the analog signal by sending ADC data to an 8-bit DAC connected to port B.　　　7+7=14

7. (a) What are the different modes available in 8253 chip? What is meant by read on fly method in 8253 timer?

   (b) Write a program to measure the width of a pulse using 8253 timer 1. The pulse is received at PA_0 of 8255 and the gate 1 is connected to PB_0 of 8255.
   　　　7+7=14

8. (a) Draw the architecture of 8086 and explain its working.

   (b) Explain the physical address generation in 8086.　　　9+5=14

9. Write short notes on the following :　　5+5+4=14

   (a) Segmented memory

   (b) DMA

   (c) R-2R DAC