

Write the function performed by each instruction and the number of bytes occupied by each instruction in the above program. Identify the contents of register A and B after the execution of the program. (15)

7. Write notes on : (15)

- (a) Register set of 80386.
- (b) OCWs and ICWs of 8259.
- (c) Memory organization in 8086.

Roll No.

Total Pages : 4

017502

December 2023

B.Tech. (EEIOT) V Semester

MICROPROCESSORS INTERFACING AND APPLICATIONS (EEN-502)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

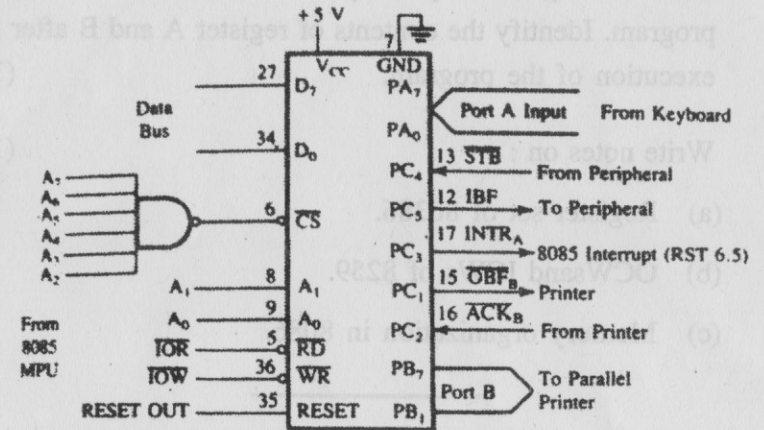
1. (a) What are handshake signals? (1.5)
- (b) What is the need of physical address generation in case of 8086 microprocessor? (1.5)
- (c) What are flags? What is the function of direction flag? (1.5)
- (d) Draw the control word format of 8254 timer. (1.5)

- (e) How much physical memory can 80386 address in real mode and in protected (1.5) mode? (1.5)
- (f) What are stacks and subroutines? (1.5)
- (g) Name any 5 pins used in each minimum and maximum mode of 8086. (1.5)
- (h) Differentiate between mode 0, mode 1 and mode 2 of 8255 peripheral interface. (1.5)
- (i) Explain REP and Loop instructions of 8086. (1.5)
- (j) Differentiate between memory mapped I/O and peripheral mapped I/O. (1.5)

PART-B

2. (a) Write 8086 ALP to find out the number of even and odd numbers in a given series of ten 8 bit numbers. (7)
- (b) Explain all the addressing modes of 8086 with the help of suitable examples. (8)
3. (a) Draw the timing diagrams for IN and OUT instructions. (7)
- (b) Draw and explain the components of the BIU and EU units of 8086. (8)

4. Find the port addresses by analyzing the decode logic.



Find the port addresses by analysing the decode logic.

Determine the control word to set up Port A as input and Port B as output in mode 1. Write initialization instructions for the same. Determine BSR control word to enable bit 4 of port C. (15)

5. (a) Describe three major additions or improvements that the 80486 processor has over 80386 processor. (5)
- (b) Draw the block diagram of 8085 microprocessor and explain all its registers. (10)
6. `MVIA,8F H`
`MVI B, 68 H`
`SUB B`
`ANI 0F H`
`STA 2070 H`
`HLT`