Bachelor of Science (B.Sc.) Semester—V Examination

ELECTRONICS : INTRODUCTION TO MICROPROCESSOR

Optional Paper—II

Time : Three Hours] [Maximum Marks : 50

Note :—(1) All questions are compulsory and carry equal marks.

(2) Draw neat diagram wherever necessary.

EITHER

1. (A) Name the different flags supported by 8085. Give the format of flag register of 8085 microprocessor and explain all flag. 2+5

What is PSW ? What will be the content of PSW after executing XRA A instruction ? 1+2

OR

(B) Explain the operation of instruction cycle and machine cycle. What is address and data bus ? Explain the concept of multiplexing of bus in 8085 µp. 6+4

EITHER

2. (A) Explain the following instructions with a suitable example :

(1) MOV A, M

(2) LXI D, 4567H

(3) CMP H

(4) STA 5460H

(5) RAR 10

OR

(B) Explain various addressing modes of 8085 with suitable example. 5

(C) µp 8085 registers have following data :

A = 26H; B = 38H; C = 6EH; H = 60H, L = 7AH, M = 47H

Find out the content of register A after execution of each of the following instructions of program :

(1) ADD A

(2) INR A

(3) SUB B

(4) DEC A

(5) MOV A M

(6) SUB M

(7) ADD C

(8) ADD A

(9) MOV A, C

(10) MOV L, A 5

EITHER

3. (A) What is Stack ? How is stack initialized ? Explain why stack memory is reserved at higher end of user memory. Explain the instruction PUSH and POP with suitable example. 1+1+2+6

OR

(B) What is interfacing ? What is the need for interfacing ? Explain memory mapped and IO mapped interfacing. 1+2+7

EITHER

4. (A) Draw the block diagram of PPI 8255 and explain the function of each block in brief. List various modes of operation of 8255 and explain in brief. 5+5

OR

(B) State the need for Data Transfer Scheme. List different types of data transfer scheme. Explain interrupt driven data transfer scheme. Compare programmed data transfer scheme with DMA. 10

5. Solve any **TEN** :

(A) State the function of ALE Pin of 8085.

(B) What is the function of program counter register ?

(C) Which of the registers of 8085 are used to access memory ?

(D) How many bytes are required for JMP and call instruction ?

(E) What is difference between call and jump instruction ?

(F) Mention any two conditional jump instruction.

(G) What is subroutine ?

(H) List any two conditional call instruction.

(I) How many ports 8085 µp can access ~~32~~ 256

(J) Write control word format for BSR mode of 8255.

(K) What are interrupts ?

(L) Mention one difference between synchronous and asynchronous data transfer. 1×10