COMPUTER SCIENCE
PAPER - II (D-9)

| Time : 3 Hours | 4 Pages | Max. Marks : 50 |

Instructions : (1) All question are compulsory.

(2) Figures to the right indicate full marks.

(3) Draw neat diagram wherever necessary.

(4) Use of any type of calculator is not allowed.

(5) Comments are must in assembly language program.

1. (A) Select the correct alternative and rewrite the following :

    (a) 8085 Microprocessor consist of _____ general purpose registers.   1

        (i) 4

        (ii) 6

        (iii) 8

        (iv) 16

    (b) _____ is not an example of logical operation of 8085 Microprocessor.   1

        (i) Rotate

        (ii) Complement

        (iii) Increment

        (iv) Compare

    (c) 8051 is a _____ bit microcontroller.   1

        (i) 4

        (ii) 8

        (iii) 32

        (iv) 16

(d) Bandwidth of telephone line is _____ .   1

    (i)   3 to 4 KHz

    (ii)   30 to 40 KHz

    (iii) 10 to 100 KHz

    (iv) 50 to 80 KHz

(B)   Answer **any two** of the following :

    (a)   Explain following registers of 8085 Microprocessor :   3

        (i)   Instruction Decoder

        (ii)   Temporary Register

        (iii) Stack Pointer

    (b)   What do you mean by Interrupt ? Explain Software Interrupt.   3

    (c)   Explain the programming model for 32-bit version of x-86 family with suitable diagram.   3

2.   (A)   Answer **any two** of the following :

    (a)   Compare Microcontroller with Microprocessor.   3

    (b)   What do you mean by Modem ? Explain its types.   3

    (c)   Explain following pin's of 8085 Microprocessor :   3

        (i)   STD

        (ii)   HOLD

        (iii) IO/$\overline{\text{M}}$

   (B)   Answer **any one** of the following :

    (a)   What do you mean by Flag Register ? Explain it bit pattern by giving an example.   1. bit status augutor   4

    (b)   Explain any four characteristics of Co-axial Cable.   4

1 - 0001
2 - 0010
3 - 0011
4 - 0100
5 - 0101
6 - 0110
7 - 0111
8 - 1000
9 - 1001
A - 1010
B - 1011
C - 1100
D - 1101
E - 1110
F - 1111

3. (A) Answer **any two** of the following :

    (a) Explain following instructions of 8085 Microprocessor.   3

    (b) Explain following addressing modes of 8085 Microprocessor :   3

        (i) Immediate Addressing

        (ii) Register Indirect Addressing

        (iii) Direct Addressing

    (c) The Accumulator contains the data 76H and the register L contains the data A6H. What will be the contents of accumulator in hex after execution of each of the following instruction independently :   3

        (i) ORA L

        (ii) ANA L

        (iii) RRC

(B) Answer **any one** of the following :

    (a) Compare the characteristics of UTP Cable and STP Cable.   4

    (b) Flag Register contains data D9H. Interpret its meaning.   4

4. (A) Answer **any two** of the following :

    (a) Write the addressing mode of following instructions :   3

        (i) RAL

        (ii) STA C500 H

        (iii) ADD C

        (iv) MVI B, 55 H

        (v) MOV M, A

        (vi) INR A

    (b) What is Microprocessor ? Write features of 8085 Microprocessor.   3

    (c) Explain LAN, WAN and MAN.   3

(B) Answer **any one** of the following :

    (a) Explain any four advantages and four application of Microcontroller.   4

    (b) Explain Repeater and Router.   4

5. Answer **any two** of the following :

(a) A block of data is stored in memory location from C101H to C10AH. Write an Assembly Language Program to transfer the block in reverse order to memory location C200H and onward. 5

(b) Write an Assembly Language Program to find the product of two numbers stored in memory location C005H and C006H. Store the result in C000H and C001H. 5

(c) Write an Assembly Language Program to add two BCD number stored at location 2500H and 2501H. Place the BCD result in location 2502H and onward starting with LSB. 5

OR

5. Answer **any two** of the following :

(a) Write a subroutine to fill the memory location 2501H to 25FF H with Hex number 01H to FFH. 5

(b) A Hex number is stored at location 2100H. Write an Assembly Language Program to interchange its digit, the new number is to be stored in 2105H. Add original number with new number and store the result at location 2105H. 5

(c) Write an ALP to count the number of odd data byte occurring in a block, starting from memory location 2501H to 25FFH. Store the result at the memory location 2600H. 5

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