

**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) Zero flag is not affected in _____ instruction.
 - (i) XRA A
 - (ii) SUB A
 - (iii) CMP A
 - (iv) MVI A, 00H
 - (b) The interrupt _____ is not a vectored.
 - (i) INTR
 - (ii) TRAP
 - (iii) RST 7.5
 - (iv) RST 6.5
 - (c) The most expensive cable amongst the following is _____.
 - (i) UTP
 - (ii) Fiber Optic
 - (iii) Co-axial
 - (iv) STP

(d) The internal ROM of 8051 is _____.

1

(i) 2 KB

(ii) 8 KB

(iii) 4 KB

(iv) 16 KB

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

(a) Write any two instructions of 8085 microprocessor for each of the following :

3

(i) 1 byte

(ii) 2 bytes

(iii) 3 bytes

(b) Explain the following characteristics of transmission media :

3

(i) Cost of Media

(ii) Electromagnetic interference

(iii) Band width

(c) Write the following points for the instruction LDAX B in 8085 Microprocessor :

3

(i) Interpretation of Mnemonic

(ii) Addressing mode

(iii) Number of byte(S)

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

(a) Write a short note on Co-axial Cable.

3

(b) Write the function of following pins in 8085 Microprocessor :

3

(i) $\overline{WR}$

(ii) $\overline{RESETIN}$

(iii) READY

(c) Write the difference between LAN and WAN. (Any three points)

3

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

(a) If Accumulation contains AA H and register B contains 55 H, write the contents of Accumulator in hexadecimal after execution of each of the following instruction dependently (one after another) : 4

(i) ORA, B

(ii) CMA

(iii) ADI, FFH

(iv) INR A

(b) Write a short note on 'Modem'. 4

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

(a) Write ROM and RAM size of the following Microcontrollers : 3

(i) 8050

(ii) 8051

(iii) 8052

(b) If the contents of Accumulator is FFH. Write the status of zero flag, Auxillary carry flag and carry flag after the execution of instruction INR A in 8085 Microprocessor. <https://www.maharashtrastudy.com> 3

(c) Compare 80286 and 80486 processors on the following attributes : 3

(i) Data bus

(ii) Address bus

(iii) Physical memory size

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

(a) Write any one of the following : 4

(i) Logical group

(ii) Data transfer group

(iii) Arithmetic group

(iv) Branching group

(b) Draw and label the programming model of 80486 Processor. 4

4. (A) Answer **any two** of the following :
- (a) Write any three points which specifies Accumulator of 8085 micro processor as a special purpose register. 3
 - (b) Write any six features of 8051 Microcontroller. 3
 - (c) Answer the following with respect to hardware interrupts of 8085 Microprocessor : 3
 - (i) List all interrupts
 - (ii) Specify the highest and lowest priority interrupt
 - (iii) Specify whether maskable or Non-maskable interrupt.
- (B) Answer **any one** of the following :
- (a) Draw block diagram of internal architecture of 8085 Microprocessor. 4
 - (b) Write a short note on STAR topology using following points : 4
 - (i) Definition
 - (ii) Diagram
 - (iii) Advantages
 - (iv) Disadvantages
5. Answer **any two** of the following :
- (a) Write an Assembly Language Program to count number of zeros in a number stored at memory location 2600H. Store the count at 2601H.
 - (b) Write an Assembly Language Program to find the largest number in a block of memory locations begins from 2400H, block length is stored at 23 FFH. Store the largest number after the end of the block.
 - (c) Write an Assembly Language Program to find absolute difference of two hex numbers stored in memory locations 2500 H and 2501 H. Store the result at 2502H.

OR

5. Answer **any two** of the following :
- (a) Write an Assembly Language Program to exchange the digits of a number the digits of a number stored in C200H and add it to the original number. Store the result at C201H. 5
 - (b) Write an Assembly Language Program to count number of times data D9H present in a memory block begins from C400H. The length of the block is stored at C3FFH. Store the result after end of the block. 5
 - (c) A block of data is stored in memory locations from C200H to C20FH. Write an Assembly Language Program to transfer the block in reverse order to memory locations C300H and onwards. 5