DAY - 16 SEAT NUMBER | | | | | | |

2025 VII 12	1100	V – 178	(E)

COMPUTER SCIENCE
PAPER - II (D-9)

Time : 3 Hours	4 Pages	Max. Marks : 50

Instructions : *(1) All questions are compulsory.*

(2) Figures to the right indicate full marks.

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

(4) Draw neat diagrams, wherever necessary.

1. (A) Select the correct alternative and rewrite the following : 4

(a) From the following options below _____ is not vectored interrupt.

(i) Trap

(ii) RST 7.5

(iii) RST 6.5

(iv) INTR

(b) After execution of XTHL instruction in 8085 Microprocessor stack pointer is _____.

(i) increased by 2

(ii) decreased by 2

(iii) remains same

(iv) increased by 1

(c) The RAM size of 8049 microcontroller is _____.

(i) 64 bytes

(ii) 128 bytes

(iii) 256 bytes

(iv) 512 bytes

(d) If the network is to be extended beyond pre defined cable limit _____ is used.

(i) Modem

(ii) Repeater

(iii) Hub

(iv) Router

(B) Answer **any two** of the following : 6

(a) What is Microprocessor ? Write any four functions performed by Microprocessor.

(b) Write purpose of following pins of 8085 Microprocessor :

(i) HOLD

(ii) INTR

(iii) ALE

(c) Define Microcontroller. State any four advantages of same over Microprocessor based system.

2. (A) Answer **any two** of the following : 6

(a) Considering following points explain the instruction INX rp :

(i) Addressing mode

(ii) Flags affected

(iii) Meaning of instruction

(b) What do you mean by one byte, two byte, three byte instruction in 8085 Microprocessor ? Give one example for each.

(c) Define following characteristic of transmission media :

(i) Band width

(ii) Band usage

(iii) Attenuation

(B) Answer **any one** of the following : 4

(a) Explain the following term with respect to block diagram of Microcomputers system :

(i) Key board interface

(ii) ROM

(iii) RAM

(iv) Display interface

(b) Draw labelled diagram MODEM. Define Asynchronous and Synchronous Modem.

3. (A) Answer **any two** of the following : **6**

(a) Define BUS Topology. Draw labelled diagram. State any two advantages.

(b) Differentiate between STP an UTP.

(c) State the function of following registers in 8085 Microprocessor :

(i) Accumulator

(ii) Stack Pointer

(iii) Program Counter

(B) Answer **any one** of the following : **4**

(a) What is access method in networking ? Define contention, token passing and polling access method.

(b) How Accumulator is different ~~than~~ from general purpose register in 8085 Microprocessor ? (State any four points)

4. (A) Answer **any two** of the following : **6**

(a) Define Hardware Interrupt. Write branching addresses of vectored hardware interrupt with their priority.

(b) Write RAM and ROM sizes of following Microcontrollers :

(i) 8048

(ii) 8051

(iii) 8052

(c) Compare any three attributes of 80286 and pentium microprocessor.

(B) Answer **any one** of the following : **4**

(a) If accumulator contains the data ABH and register B contains 54H. What will be the contents of accumulator in hexadecimal after execution of each of the instructions dependently (Stepwise i.e. one after another)

(i) ANA B

(ii) CMA

(iii) CMP B

(iv) ANI OOH

(b) Draw labelled diagram of programming model related with 80286 Microprocessor with register set.

5. Answer **any two** of the following : **10**

(a) Write an Assembly Language program to divide the data at location 9900H by the data stored at location 9901H. Store the quotient and remainder in 9902H and 9903H memory locations respectively.

(b) Write an Assembly Language Program to count the number of times data 9DH is found in block of memory locations starting from 8901H. Length of the block is stored in memory location 8900H. Store the result in memory location 8000H.

(c) A 16 bit number beginning with lower order byte is stored from memory location 7000H. Write a Assembly Language Program to find its two's (2's) compliment and stare the result beginning with lower order byte from memory location 7500H.

OR

5. Answer **any two** of the following : **10**

(a) Write an Assembly Language Program to find one's (1's) compliment of a number stored at memory location D000H without using CMA instruction and store result at memory location D001H.

(b) Write an Assembly Language Program to check whether fourth and fifth bits of a hexadecimal number stored in memory location D900H is logical one then store 00H else FFH of memory location D901H.

(c) Write an Assembly Language Program to copy a block of data stored in memory location from D100H to D10FH in new memory location starting of E100H.

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