

Roll No.....

Total No. of Questions : 13]

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Paper ID [A0315]

(Please fill this Paper ID in OMR Sheet)

B.Sc.IT (403) (S05) (N) (LE) (Sem. - 4th)

MICROPROCESSOR SYSTEM

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Nine** questions from Section - B.

Section - A

Q1)

(15 × 2 = 30)

- a) What is a Microprocessor?
- b) What is the function of assembler?
- c) Explain the difference between machine language and the assembly language in INTEL 8085 microprocessor.
- d) Explain 'instruction cycle' and 'machine cycle'.
- e) How does a microprocessor differentiate among a positive number, a negative number and a bit pattern?
- f) Explain fetch operation and execute operation.
- g) Why is the direction of data flow in address bus?
- h) Differentiate between Data Bus and Address Bus.
- i) What is machine cycle?
- j) What do mean by RAL and RAR instructions?
- k) What is opcode?
- l) Is there a minimum pulse width required for the interrupt signal?
- m) Write instruction to:
 - (i) Load 08H in the accumulator.
 - (ii) Increment the accumulator.
 - (iii) Display the answer.

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P.T.O.

- n) Explain how many times the following loop will be executed in INTEL8085 microprocessor:
LXI B, 0007H
LOOP:DCX B
JNZ LOOP
- o) What do you mean by opcode and operands?

Section - B

(9 × 5 = 45)

- Q2)** Draw the functional block diagram of INTEL 8085 microprocessor.
- Q3)** Explain briefly about the evolution of microprocessors.
- Q4)** How address decoding is done in INTEL 8085 microprocessor?
- Q5)** Explain addressing modes.
- Q6)** Classify 8085 instructions in various groups. Give examples of instructions for each group.
- Q7)** Describe the functions of different flags of ALU of INTEL 8085 microprocessor.
- Q8)** Explain the operations commonly performed by MPU.
- Q9)** Explain how integers are represented internally in a computer.
- Q10)** Give the block diagram for memory chip 8155.
- Q11)** Write a program to add the following data bytes stored in memory locations starting at XX60H in INTEL 8085 microprocessor and display the sum at the output port if the sum does not generate a carry. If a result generates a carry, stop the addition, and display 01H at the output port. The data in hexadecimal code is
First set: 37, A3, 24, 78, 97.
Second set: 12, 1B, 29, 42, 07.
- Q12)** Write an assembly language program to find largest number in a data array.
- Q13)** Write an assembly language program to add two 8-bit numbers, the sum may be of 16 bits.