

Roll No.....

Total No. of Questions : 13]

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Paper ID [A0215]

(Please fill this Paper ID in OMR Sheet)

BCA (305) (S05) (Old) (Sem. - 3rd)

INTRODUCTION TO MICROPROCESSOR

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

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

Section - A

(15 × 2 = 30)

Q1)

- a) Differentiate between microprocessor and CPU?
- b) What is a bus? Why is the data bus bidirectional?
- c) What is a flag? List all the commonly used flags in 8085.
- d) What is the difference between **LDA** and **STA** instructions?
- e) How many memory locations can be addressed by a microprocessor with 14 address lines and how many address lines are necessary to address two megabytes (2048) of memory?
- f) Which pin of 8086 will differentiate between minimum mode and maximum mode?
- g) What is the role of instruction pointer in 8086?
- h) What is an interrupt? List interrupts of 8086.
- i) What are important signals of 8086?
- j) What is a clock and what is the function of a clock generator?
- k) In what all situations DMA is used?
- l) List two interrupt controllers.
- m) What is the need of interrupt controller?
- n) Explain why each channel in 8257 DMA controller is restricted to 16K bytes of data transfer.
- o) What is the role played by current address register in 8237?

Section - B**(9 × 5 = 45)**

- Q2)** Discuss with examples the various modes involved with 8085.
- Q3)** Write an 8085 assembly language program to multiply two numbers each of 8 bits.
- Q4)** Explain the functions of the following pins of 8085 Microprocessor:
TRAP, HOLD, READY, RESET IN.
- Q5)** Write a short note on RISC processors.
- Q6)** Explain the meaning of the following 8086 instructions:
LOOP, DAA, CBW, IMUL, ROR.
- Q7)** Draw the internal architecture and functional block diagram of 8086 Microprocessor.
- Q8)** What are various addressing modes of 8086? Discuss them in brief.
- Q9)** Discuss the difference in architectures of 8085 and 8086.
- Q10)** Explain in detail working of 8257 DMA controller.
- Q11)** Discuss cycle stealing and burst mode of DMA.
- Q12)** Write a short note on arithmetic coprocessor.
- Q13)** Write an initialization program to transfer 256 bytes of data from floppy disk to memory, starting at 2050H. After the transfer, the DMA (8257) operation should be terminated.

