

Roll No.

Total No. of Questions : 09]

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B.Tech. (Sem. - 4th)

MICROPROCESSORS & ASSEMBLY LANGUAGE PROGRAMMING

SUBJECT CODE : CS - 208

Paper ID : [A0461]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 x 2 = 20)

- a) What is the difference between MOV AX, 1000H AND MOV AX, [1000H]?
- b) Register AX, BX and CX contain the respective values 2000H, 1000H and 3000H. What is the result of CMPXCHG BX, CX?
- c) What is a three byte instruction? Give example.
- d) What is the function performed by timing and control unit in a microprocessor?
- e) Give the significance of SIM and RIM instruction available in 8085.
- f) List the features of 8251.
- g) Differentiate a microprocessor and a microcontroller.
- h) How many interrupt sources are available in 8051? What are they?
- i) What are the various components of emulator?
- j) What is the use of Latch signal on the AD0 - AD15 bus in an 8086 system?

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Section - B

(4 x 5 = 20)

- Q2)** Sketch and explain the timing diagram of an input transfer on a synchronous bus.
- Q3)** Describe instruction cycle, machine cycle and state.
- Q4)** Write an assembly language program in 8085 to find the largest number in a data array.
- Q5)** What are the various registers used in 8085?
- Q6)** What are the functional blocks available in 8051? Explain with a block diagram.

Section - C

(2 x 10 = 20)

- Q7)** (a) Define the different modes of operation of DMA. What are various control signals generated by DMA controller in master mode?
(b) Draw the circuit for interfacing processor, memory and I/O devices through DMA.
- Q8)** Draw the block diagram of internal architecture of 8086. Explain the function of each block.
- Q9)** Discuss the application of microprocessor for controlling the speed of a stepper motor.

