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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?

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.