

B.Tech. (Sem. - 4th)

MICROPROCESSORS AND 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 × 2 = 20)

- a) How many locations can be addressed by a microprocessor with 14 address line?
- b) List the four operations commonly performed by the MPU.
- c) If the memory chip size is 1024*4 bits, how many chips are required to make up 16K- byte memory?
- d) What operation can be performed using the instruction XRAA.
- e) Identify machine cycles in the following instruction.
ADI 47H; 2-byte, 7(4,3) T states
- f) If 8085 adds 87H and 79H, specify the contents of the accumulator and the status of the S,Z and CY flags.
- g) Draw the timing diagram of memory write cycle.
- h) Explain PROM programming.
- i) List logical group instruction for 8085 microprocessor.
- j) Specify the register contents and the flag status as the following instructions are executed.

A	C	S	Z	CY
XX	XX	0	0	0(Initial contents)

MVI A, 5EH

ADI A2H

MOV C,A

HLT

Section - B

(4 × 5 = 20)

- Q2) Draw and explain the architecture of 8086.
- Q3) Explain the various registers of 8051 chip.
- Q4) Explain the interfacing of seven segment LED display with example.
- Q5) Explain the functions of the ALE and $\text{IO}/\overline{\text{M}}$ signals of the 8085 microprocessor.
- Q6) Discuss DMA controller briefly.

Section - C

(2 × 10 = 20)

- Q7) Write an assembly language program (8085) for the following :
- (a) To add the following five data bytes stored in memory locations starting from XX60H, and display the sum
Data (H) : 1A, 32, 4F, 12, 27.
 - (b) To count positive, negative and zero no's in a given series of numbers.
- Q8) Explain functional block diagram of 8085 in detail.
- Q9) Explain the data addressing modes of 8086 with an example to each.

