

BT-4/M-24

44159

MICROPROCESSORS AND
MICROCONTROLLERS
EC-210A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Draw the architecture of 8085 and 8086 microprocessors. Explain in detail the various tasks performed by BIU and EU. 15
2. Draw and discuss the typical maximum mode 8086 system with a read-and-write cycle timing diagram in maximum mode. 15

Unit II

3. (a) Draw the pin diagram of 8051 and explain the function of each pin in detail. 10

5000H, [CS]-0000H, [DS]-1000H, [SS]-2500H, [IP]-6000H

Form effective addresses for Register relative, Register indirect, Based Indexed, Relative based Indexed and Direct addressing mode.

- (b) Write an ALP to perform multiplication and division of two 8-bit data 21H and 17H in 8051. 5

Unit IV

7. Design an interface between 8086 CPU and two chips of $4K \times 8$ RAM and two chips of $4K \times 8$ ROM. Select the starting address of ROM and RAM memories suitably. 15
8. Explain the operation and interfacing diagram of LCD with 8051. Also developing an assembly program to display the message 'HELLO' at the beginning of the first line. 15