

Roll No. ....

Total Pages : 3

**BT-6/M-20**

**36133**

**MICROPROCESSOR AND MICRO-CONTROLLER**

**Paper–EEN-306N**

**Time : Three Hours]**

**[Maximum Marks : 75**

**Note :** Attempt *five* questions in all, selecting at least *one* question from each unit.

**UNIT–I**

**1.** In context of 8085 microprocessor explain the following :

- (i) Memory and I-O pins.
- (ii) Registers.
- (iii) Use as lower address bus of data lines.

Draw the neat diagrams where necessary. (5×3=15)

**2.** (a) Explain the interrupt structure of 8085.

- (b) Explain addressing modes of 8085 and their need.

(7½×2=15)

## UNIT-II

3. Classify instructions of 8085 microprocessor. Hence explain the following :

- (i) Instruction for Input and Output with peripherals.
- (ii) Instructions that allow data transfer between accumulator and memory.

Also compare Jump and CALL instructions. ( $5 \times 3 = 15$ )

4. Explain the need of data transfer techniques. Also explain and compare the following data transfer techniques :

- (i) Synchronous and Asynchronous data transfer.
- (ii) Asynchronous and Interrupt driven data transfer. Draw necessary flow charts. ( $7\frac{1}{2} \times 2 = 15$ )

## UNIT-III

5. Write down an assembly language program to multiply two eight bit numbers. Result may be assumed to extend to 2-bytes. Draw and explain with the help of flow chart. 15

6. (a) Draw and hence explain the block diagram of 8255 PPI. Write down control word format of 8255 and hence explain it.

- (b) “Problems associated with I-O interfacing of 8085 microprocessor are more acute than memory interfacing.” Justify the statement with the help of diagrams. ( $7\frac{1}{2} \times 2 = 15$ )

## UNIT-IV

7. Explain the following in control of 8086 micro-processor :
- (a) Basic parts of 8086 and its pin diagram.
  - (b) Pipelined architecture of 8086.
  - (c) Function of BIU. (5×3=15)
8. Draw and explain block diagram of 8051 microcontroller. Also write down distinguishing features of 8051 in comparison to 8085. Also mention reasons of availability of different versions of 8051 micro-controller. 5
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