

BT-4/M11

8404

Microprocessors and Interfacing**Paper—ECE-216E**

Time : Three Hours]

[Maximum Marks : 100

Note :—Attempt FIVE questions with at least ONE question from each unit.

UNIT—I

1. (a) Explain the functions of the following in 8085 :—
 - (i) Program counter
 - (ii) Control unit
 - (iii) ALU. 10
- (b) Draw the functional block diagram of a static RAM and explain the memory READ and WRITE operations with the help of timing diagrams. 10
2. (a) Discuss the addressing modes of 8085 with at least one example for each.
- (b) How the AD-bus in 8085 is demultiplexed ? Explain. 10+10

UNIT—II

3. (a) Draw the internal block diagram of 8086 and explain the functions of Execution Unit and Bus Interface Unit.
- (b) What are different registers provided in 8086 ? Explain the function of each register. 10+10
4. (a) Discuss the addressing modes of 8086.
- (b) Signed integers are stored in memory locations 20010H to 20020H. Write an assembly language program for 8086 to find largest number and store it in accumulator. 10+10

UNIT—III

5. (a) How the chip 8255 is initialized ? Explain with an example. Discuss operation of 8255 in Bit Set Reset (BSR) mode.
- (b) Discuss the operation of 8255 in Mode 1 (strobed input/output). Explain handshaking operation with the help of timing diagrams.
- 10+10
6. (a) Explain **THREE** main characteristic parameters of :
- (i) D to A Converter
- (ii) A to D Converter.
- (b) Choose any 8 bit ADC and explain how it can be interfaced with 8086 using a 8255.
- 10+10

UNIT—IV

7. (a) Discuss the interfacing of 8237 with 8086 and memory and a peripheral I/O device with the help of a block diagram.
- (b) List and explain the function of five registers available in 8237.
- 10+10
8. (a) Explain the Initialization Command Words (ICW) and Operational Command Words (OCW) of 8259.
- (b) Explain how 8253 can be used to generate a square wave.
- 10+10