

BT-5/D09

MICROPROCESSOR AND INTERFACING

Paper : ECE-311(E)

Time : Three Hours]

[Maximum marks : 100

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

UNIT-I

1. (a) What are Von-Neumann architecture of computers ? Give the examples and explain technological trends in microprocessors development. 8
- (b) Define what is a Tristate logic. What do you mean by tristating of buses ? 6
- (c) Write the features and specifications of microprocessor 8086. 6
2. (a) Draw the functional block diagram and explain the features of clock generator 8284 used with 8086. 7
- (b) What is the role of Pointer and Index register in 8086 ? How they can used, explain with the help of examples. 6
- (c) Explain the programming model of 8086. 7

UNIT-II

3. (a) Explain the function of the following pins : NMI, TEST, DEN BHE, Ready. 10
- (b) Describe the operation performed by the following instruction :
 - (i) MOV [SI], BX.
 - (ii) AND BX, [SI].
 - (iii) AAA.
 - (iv) IMUL CL.
 - (v) SBB BX, CX. 10
4. (a) Write an 8086 assembly language program to complement the LSB of flag register using LAHF and SAHF instructions. 10
- (b) Explain the different addressing modes of 8086 with the help of suitable examples. 10

UNIT-III

5. (a) Draw and explain the timing waveforms for read operation of 8086 in minimum mode. 10

- (b) Compare the features of DRAM and SRAM. 5
 - (c) Explain the concept of Refreshing of DRAM. 5
 6. (a) Explain the features and functions of DRAM controller TMS-4500 with the help of its functional block diagram. 10
 - (b) Explain in detail the features and functions of different types of Memory devices. 10
- #### UNIT-IV
7. (a) Sketch and explain the interfacing of PPI 8255 to the 8086 microprocessor in minimum mode. 12
 - (b) Define an Interrupt and give the different types of interrupt present in 8086. 8
 8. Write short notes on any two of the following :
 - (a) Description and interfacing of 8251. 10
 - (b) Interrupt vector table. 10
 - (c) Interfacing of 8×8 key board. 10