(Old Course)   QP Code : 586801

(3 Hours)   [Total Marks : 100]

N.B : (1) Question No. **1 is compulsory.**

         (2) Solve any **four** questions from the remaining **six** questions.

         (3) **Figures** to the **right** indicate **full** marks.

         (4) Assume suitable **data** where **necessary**.

1. (a) Explain rotate instructions of PIC 18F microcontroller.   5

    (b) Explain function of BIU in 8086.   5

    (c) Explain Flag register of 8086.   5

    (d) Explain significance of $\overline{BHE}$ in 8086   5

2. (a) Explain the following instructions of PIC 18F microcontroller .   10

      (i) CLRW (ii) BTG PORT C,4,0 (iii) ANDLW 0x5F (iv)TBLRD*-(v) MULWF 0x25,0

    (b) Draw and explain interfacing of 8086 with 8255.   10

3. (a) With the help of flowchart/algorithm write assembly language program for 8086   10

      to arrange a data block of ten 8 bit numbers in ascending order. Assume the

      necessary data.

    (b) Explain the instruction format of PIC 18F microcontroller.   10

4. (a) Explain interrupt structure of 8086.   10

    (b) Explain addressing modes of PIC 18F microcontroller.   10

5. (a) Explain interfacing of 8259 with 8086 in minimum mode.   10

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(b) Design 8086 microprocessor based system using minimum mode with following

   specifications 10

   (i) 8086 microprocessor working at 8 MHz.

   (ii) 16 KB EPROM using 8 K x 8 devices.

   (iii) 16 KB SRAM using 8 K x 8 devices.

   Clearly show memory map with address ranges.

6. (a) Explain string instructions and prefix of 8086. 10

   (b) Write assembly language program for PIC 18F microcontroller to add two 4 digit

   BCD numbers. First 4 digit BCD number is located at memory locations 0x20

   and 0x21. . Second 4 digit BCD number is located at memory locations 0x22

   and 0x23.Store result in memory locations 0x24 to 0x26. 10

7. Write note on any four of the following 20

   (a) PIC 18F Pipeling.

   (b) Comparative study of salient features of 8086 and 80386.

   (c) Memory banking in 8086.

   (d) PIC 18F STATUS register.

   (e) Memory segmentation in 8086.