PH March Exam (4) 131

Con. 3779-12.

GN-7182

(3 Hours) [Total Marks : 100

N.B. (1) Question No. **1** is **compulsory** and solve any **four** from remaining **six** questions.
(2) **Figures** to the **right** indicate **full** marks.
(3) Assume data if **necessary,** and give **justifications**

1. (a) Explain rotate instructions of PIC 18 F controller. **5**
(b) Explain flag register of 8086 processor. **5**
(c) Explain MOVLW and COMF instructions in PIC 18 F. **5**
(d) Explain need for handshaking signal used with various modes of 8255 PPI. **5**

2. (a) Explain working and interface of numeric data coprocessor 8087 with 8086. **10**
(b) What are the different function blocks in 8259, Programmable Interrupt Controller ? Explain their role in the process of interrupt handling. **10**

3. (a) Discuss in brief, the memory organization of PIC 18 F microcontroller. What is the purpose of processor stack ? **10**
(b) Give **two** examples of each type of addressing modes in 8086 given below : **10**
(i) Direct Addressing
(ii) Based Addressing
(iii) Implicit Addressing
(iv) Immediate Addressing
(v) Based and Indexed Addressing.

4. (a) Draw and explain 8086 system operating in maximum mode. **10**
(b) Write a program to perform 32 bit × 32 bit multiplication. **10**

5. (a) Explain different addressing modes of PIC 18 F. **10**
(b) Draw timing diagrams for minimum mode of 8086– **10**
(i) Read Bus Cycle
(ii) Write Bus Cycle.

6. (a) Explain any **two** applications of Timer in PIC 18 F and write a program to calculate delay of 100μs (Frequency is 40 MHz). **10**
(b) Design 8086 based micro computer system using minimum mode with following specifications : **10**
(i) CPU working at 5 MHz
(ii) 32 kB SRAM (16 kB × 8 devices)
(iii) 32 kB EPROM (8 kB × 8 devices)
Draw neat schematic and use exhaustive decoding.

7. Write short notes on :–
(a) PIC 18 Reset **5**
(b) Comparative study of salient features of 8086 and Pentium **5**
(c) DMA Controller modes **5**
(d) Mixed Language programming. **5**