QP Code : 1676

Total marks:100

(3 Hours)

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) Specify the register contents and flag status 0f 8085 as following instructions are executed.   5

A	B	S	Z	CY
XX	XX	X	X	X

    XRA A

    MVI B, 5A H

    SUI 5F H

    ANA B

    HLT

(b) Explain how interrupts are handled in 8051.   5

(c) Explain functions of ALE and IO/$\overline{\text{M}}$ signals of 8085 microprocessor.   4

(d) Explain any three addressing modes of ARM processor.   6

2. (a) Explain addressing modes of 8051.   10

(b) Design a 8085 based microprocessor based system with following specifications:

    CPU of 3 MHz, EPROM of 16 KB using 8 KB chips and RAM of 16 KB using

    8 KB chips. Discuss schematic and show the memory map.   10

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3. (a) Draw and explain architecture of ARM processor.   10

   (b) Interface 8259 with 8085 using I/O mapped I/O technique and initialize 8259 to

      meet following specifications   10

      . (i) Level triggered , single and ICW4 not needed.

      (ii) Mask interrupts IR2 and IR4.

      (iii) Interrupt vector address for IR0 is 4250 H.

4. (a) Explain control word register format of 8253   10

   (b) Explain the following instructions of ARM processor.   10

      (i) BNE label   (ii) ADDEQ R1,R2,R3   (iii) LDRB   R2, [R1],#i

      (iv) SMULTB R1,R2,R3 (v) MVN R2,#10

5. (a) Explain TMOD and TCON register of 8051.   10

   (b) Write assembly language for 8085 to multiply two 8 bit number using add

      and shift method.   10

6. (a) Explain the interrupt structure of 8085.   10

   (b) Interface DAC 0808 to 8051 and write assembly language program using 8051

      to generate triangular waveform.   10

7. Write short note on any four of the following   20

   (a) Serial communication in 8085. (b) PORT 3 structure of 8051.

   (c) BSR mode of 8255.   (d) PSW register of 8051.

   (e) 8051 unconditional jump instructions.