2023

M.Sc.

4th Semester Examination

ELECTRONICS

PAPER : ELC-402

Full Marks : 50

Time : 2 hours

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers
in their own words as far as practicable.
Illustrate the answers wherever necessary.

Answer **all** questions.

(MICROPROCESSOR AND ITS APPLICATIONS)

1. Answer *any* **four** questions from the following :
   2×4=8

   (a) Explain the difference between the machine language and assembly language of the 8085 microprocessor.   2

   (b) How is the PUSH B instruction executed? *Find the status after the execution.*   2

(c) What is PSW? 2

(d) If the 8085 adds 87 H and 79 H, specify the contents of the accumulator and status of S, Z and CY flags ½×4=2

(e) What are the SFRs of 8051? 2

(f) Explain the physical address formation in 8086. 2

2. Answer *any* **four** questions from the following : 4×4=16

(a) How does 8085 microprocessor generate appropriate control signals to interface memory and I/O? 4

(b) Draw the opcode fetch machine cycle of 8085 and discuss. 2+2=4

(c) Mention different addressing modes of 8085 and give one example for each. 2+2=4

(d) Discuss about the triggering levels of RST 7·5, RST 6·5, RST 5·5 and TRAP. 4

(e) List the features of Intel 8051. 4

(f) Explain the pipelined architecture in 8086. 4

3. Answer *any* **two** questions from the following :

$8 \times 2 = 16$

   (a) Draw the architecture of 8085 and mention various functional blocks. $5+3=8$

   (b)   *(i)* Show the control word format for I/O mode of PPI 8255A.

           (ii) Write down the mode O control words for the following two cases :

               (A) Port A = Input port, Port B = Not used,

                   Port C_L = Input port and Port C_U = Output port

               (B) Port A = Output port, Port B = Input port, Port C = Output port

                             $4+(2+2)=8$

   (c)   *(i)* Write the length and addressing modes of the following instructions :

               (A) LXI H, 2050 H

               (B) STA 3050 H

               (C) MOV A, M

           (ii) Explain the different modes of operations of 8255 in detail. $3+5=8$

   (d) Draw and discuss the internal block diagram of 8086. $4+4=8$

[Internal Assessment : 10 Marks]

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