

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER – 2023**

MICROCONTROLLER AND INTERFACING

[Maximum Marks : 100]

[Time : 3 hours]

PART – A
(Maximum Marks : 10)

Marks

I. Answer **all** questions in one or two sentences. Each question carries 2 marks.

1. Write two functional units of 8086.
2. What is the importance of pin No.32 of 8086?
3. Define assembler.
4. List the operands of Pentium processor.
5. Define LCD.

(5x2=10)

PART – B
(Maximum Marks : 30)

II. Answer any **five** of the following questions. Each question carries 6 marks.

1. Compare microprocessor and microcontroller.
2. Draw the pin diagram of 8051.
3. Discuss IE special function register.
4. List the instruction sets in 8051.
5. Explain modes of operations of timer in 8051.
6. Briefly explain the working of stepper motor.
7. Draw the interfacing diagram of LCD with 8051.

(5x6=30)

PART – C

(Maximum Marks : 60)

(Answer **one full** question from each unit. Each full question carries 15 marks)

UNIT – I

- III.** (a) Draw and explain the internal architecture of 8051. (10)
(b) List the features of 8051. (5)

OR

- IV.** (a) Briefly explain the pin functions of 8051. (8)
(b) Describe the data memory organization. (7)

UNIT – II

- V.** (a) Explain different addressing modes of 8051. (9)
(b) Write an ALP to multiply two 16 bit number. (6)

OR

- VI.** (a) Explain the steps involved in interrupt processing in 8051. (9)
(b) Describe the functions of IP special registers. (6)

UNIT –III

- VII.** (a) Briefly explain the functions of TMOD and TCON registers. (10)
(b) Describe timer and counter function in 8051. (5)

OR

- VIII.** (a) Describe the function of SCON and PCON register. (10)
(b) Explain Serial data transmission and reception in 8051. (5)

UNIT – IV

- IX.** (a) Describe the interfacing of keyboard with 8051. (10)
(b) Draw the interfacing diagram of DC motor speed control. (5)

OR

- X.** (a) Explain the interfacing of Temperature control with 8051. (9)
(b) Draw the interfacing diagram of ADC with 8051. (6)
