

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/
COMMERCIAL PRACTICE - NOVEMBER-2021**

MICROCONTROLLER AND INTERFACING

[Maximum marks: 75]

(Time: 2.15 Hours)

PART – A

Marks

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

1. Write any two features of 8085 microprocessor.
2. Explain the function of DAA instruction in 8051.
3. State the use of Interrupt Mask Register in 8259.
4. List the types of 7 segment display.
5. Define step angle in stepper motor.

(3 x 2 = 6)

PART – B

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

1. Compare microprocessors and microcontrollers.
2. Explain serial data reception in 8051.
3. Explain control register of 8255 with the help of a diagram.
4. Explain the interfacing of D/A converter with 8051.
5. List any six features of 8051.
6. Differentiate between Jump and Call instructions in 8051.
7. Explain the Keyboard debounce and control section of 8279.

(4 x 6 = 24)

PART – C

Answer *any of the three units* from the following. Each full question carries 15 marks

UNIT – I

- III. (a) Explain the internal block diagram of 8085. (8)
- (b) Describe the power saving modes of operation in 8051. (7)

OR

- IV. (a) Explain the architecture of 8051 with the help of a block diagram. (8)
- (b) Explain the different types of registers in 8085. (7)

UNIT-II

- V. (a) Explain addressing modes of 8051 with an example. (8)
(b) Write an assembly language program to find the largest among an array of numbers. (7)
OR

- VI. (a) Explain the modes of serial data communication in 8051. (8)
(b) Write an assembly language program to sort an array of numbers in ascending order. (7)

UNIT-III

- VII. (a) Explain the architecture of 8251 with the help of a block diagram. (8)
(b) Describe the ports in 8255 (7)

OR

- VIII. (a) Explain the architecture of 8255 with the help of a block diagram. (8)
(b) Explain the scan section of 8279. (7)

UNIT-IV

- IX. (a) Explain the interfacing of DC motor with 8051. (8)
(b) List the pins of A/D converter IC ADC0804 (7)

OR

- X. (a) Explain the interfacing of stepper motor with 8051. (8)
(b) List the pins of LCD display IC LM051 (7)
