1510230071

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2024

MICROCONTROLLER AND INTERFACING

[Maximum Marks: **100**]   [Time: **3** Hours]

PART-A
[Maximum Marks: **10**]

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

   1. Write short note about Flag register.

   2. Define the function of **ADDC A, #data**.

   3. List the features of IC 8259.

   4. How DC motor speed is controlled?

   5. Describe working of subroutine.   (5 x 2 = 10)

PART-B
[Maximum Marks: **30**]

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

   1. Explain the dual functions of port 3 in 8051.

   2. Briefly explain SCON register.

   3. Draw the pin diagram of 8255.

   4. Sketch interfacing seven-segment display with 8051.

   5. Compare microprocessor and microcontroller.

   6. Explain the functions of the following instructions.

        a) **RR A**   b) **RL A**   c) **RRC A**   d) **RLC A**

   7. Explain display section of IC 8279.   (5 x 6 = 30)

PART-C
[Maximum Marks: **60**]
(Answer **one** full question from each Unit. Each full question carries **15** marks)

UNIT – I

 III.   a. Draw the internal architecture of 8085.   (10)

        b. Describe features of 8085.   (5)

OR

IV.   a. Explain the pin diagram of 8051. (10)

      b. List the interrupts of 8051. (5)

UNIT – II

V.   a. List and Explain Jump instructions. (7)

     b. Write a program to find the largest number in an array. (8)

OR

VI.   a. Explain look-up tables in 8051. (5)

      b. Explain the addressing modes of 8051 with one example. (10)

UNIT- III

VII. Draw and explain the architecture of 8251. (15)

OR

VIII. a. Draw and explain the pin diagram of 8259. (8)

      b. Draw the block diagram of 8279. (7)

UNIT - IV

IX.   a. Explain with diagram the interfacing of LCD system with 8051. (8)

      b. Sketch DAC interfacing. (7)

OR

X.   a. Draw the pin diagram of ADC 0804. (5)

      b. Describe Stepper motor interfacing. (10)

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