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Reg. No……………………
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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2022

MICROCONTROLLERS AND INTERFACING

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

(PART-A)

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

1. State the function of ALU.

2. MOV A, @ R_0 is the example of which addressing mode of 8051.

3. List any two sources of interrupts in 8051.

4. Define baud rate in serial communication.

5. Define the term interfacing in connection with microcontroller?   (5 x 2 = 10)

(PART-B)

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

1. List the features of 8051?

2. Discuss internal data memory organization of 8051.

3. Discuss any three arithmetic instructions of 8051.

4. List the steps involved in interrupt processing of 8051.

5. Discuss mode0 operation of the timer of 8051.

6. Discuss the format of SCON register of 8051.

7. Draw the interfacing diagram of key board with 8051.   (5 x 6 = 30)

(PART-C)

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

UNIT – I

III. (a) Describe the block diagram of 8051.   (8)

(b) Compare Microcontroller and Microprocessor.   (7)

OR

IV. (a) Draw the Pin Diagram of 8051 and describe function of PSEN, EA & ALE. (10)

(b) Draw the structure of port1. (5)

UNIT – II

V. (a) Describe any four addressing modes of 8051. (8)

(b) Explain the IE register. (7)

OR

VI. (a) Write an ALP to find number of zeros and ones in a given byte. (7)

(b) Explain priority of interrupts in 8051. (8)

UNIT- III

VII. (a) Explain mode 2 operation of the timer of 8051. (7)

(b) Describe TCON register of 8051. (8)

OR

VIII. (a) Describe different serial communication modes of 8051. (12)

(b) Draw the format PCON register. (3)

UNIT - IV

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

(b) Explain the interfacing of stepper motor with 8051. (7)

OR

X. (a) Describe the interfacing of dc motor speed control with 8051. (8)

(b) Explain the interfacing of DAC with 8051. (7)

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