A21 – 01330

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL – 2021

MICROCONTROLLER AND INTERFACING

[Maximum Marks: 75]   [Time: 2.15 Hours]

PART-A
(Answer *any three* questions in one or two sentences. Each question carries 2 marks)

I
1. List the power saving modes of 8051.
2. Write any two features of 8051.
3. State the function of instructions RRA and RLA.
4. List the output ports of 8255.
5. List the types of 7 segment display.   (3×2=6)

PART-B
(Answer *any four* of the following questions.   Each question carries *6* marks)

II
1. Compare Microprocessors and Microcontrollers.
2. Describe the features of 8085.
3. Write the functions of PUSH and POP instructions.
4. Explain the modes of Serial data communication.
5. Draw the pin diagram of 8255.
6. Write classification of stepper motors.
7. Describe the commands in LCD.   (4×6=24)

PART-C
(Answer *any of the three units* from the following. Each full question carries 15 marks)

UNIT-I

III   (a) Draw the internal block diagram of 8085.   (8)

         (b) Explain the functions of stack in 8051.   (7)

OR

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IV   (a) Explain the registers of 8085.   (8)

      (b) Draw and explain the pin details of 8051.   (7)

UNIT – II

V   (a) Explain LJMP and SJMP instructions of 8051.   (8)

      (b) Explain the addressing modes 8051.   (7)

OR

VI   (a) Write an ALP to find the largest number in an array.   (8)

      (b) Explain the arithmetic, logic instructions.   (7)

UNIT – III

VII   (a) Draw and list the pins of 8279.   (8)

      (b) Explain the modes of 8255.   (7)

OR

VIII (a) Describe the architecture of IC 8251.   (8)

      (b) Draw and list the pins of IC 8259.   (7)

UNIT – IV

IX   (a) Explain the interfacing of 7 segment display.   (8)

      (b) Draw the interfacing circuit of DC motor.   (7)

OR

X   (a) Explain the interfacing of Digital to Analog Converter.   (8)

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