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Printed Pages : 2

BT-6/M–18

INTRODUCTION TO MICROCONTROLLER

Paper–IT-308 N

Time allowed : 3 hours] *[Maximum marks : 75*

***Note :** Attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.*

Unit–I

1. (a) What are the key differences between micro-controller and micro-processor ? Discuss.

   (b) Draw the pin diagram of 8051 and give the description of its pins.

2. (a) Write a note on the history of micro-controllers.

   (b) Discuss in detail the Interrupt Priority (IP) register of 8051.

Unit–II

3. (a) What do you understand by addressing modes ? What is indexed addressing mode in 8051 ? What is the use of it ? Explain.

   (b) Differentiate between RLC and RRC instructions using suitable examples.

4. (a) What are the data transfer instructions available in 8051 ? Explain.

   (b) What is the difference between ADD and ADDC instruction ? Explain.

Unit–III

5. Assume that XTAL = 11.0592 MHz. What value do we need to load into the timer's registers if we want to have a time delay of 5 ms (milliseconds) ? Show the program for Timer 0 to create a pulse width of 5 ms on P2.3.

6. (a) Write a program to transfer the message "YES" serially at 9600 baud, 8-bit data, 1 stop bit. Do this continuously.

   (b) What is the use of RI flag bit ? Discuss.

Unit–IV

7. Write the code to interface DC motor with 8051 micro-controller. Draw the circuit diagram also.

8. Write the code to interface matrix keypad with 8051 micro-controller. Draw the circuit diagram also.