Roll No. .................

Total Pages : 2

**8715**

## BT-7/DX
## MICROCONTROLLERS
### Paper : ECE-415(E)

Time : Three Hours]                    [Maximum Marks : 100

**Note :** Attempt *five* questions in all, selecting at least *one* question from each unit.

## UNIT–I

1. Explain the most important application of microcontroller that you have seen actually for sale.                    20

2. (a) Differentiate between 8-bit, 16-bit and 32-bit micro-controllers.                    10

   (b) Compare the major differences between Microprocessor and Microcontroller.                    10

## UNIT–II

3. (a) Discuss the pin diagram of 8051.                    6

   (b) Discuss the RESET and CLK circuit.                    7

   (c) Explain the differences between Port 0, Port 1 and Port 2 I/O pins.                    7

4. (a) Define the following :

   (i)   SFR.

   (ii)  PSW.                    4

   (b) Explain SCON and PCON function register.                    6

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(c) Which Register holds the Serial data interrupt bits TI and RI ? Explain. 10

## UNIT–III

5. (a) Discuss ACALL and LCALL mnemonics. 4

   (b) Explain the various addressing modes of 8051. 8

   (c) Describe the purpose of H/W Pure delay. 8

6. (a) Explain the various JMP (Jump) instructions of 8051 microcontoller. 10

   (b) Explain the execution of instruction :

   CJNE R7, #60H; DJN ZR$_9$, #22H;

   MOVC A, @ DPTR. 10

## UNIT–IV

7. (a) Discuss the interfacing of 7-segment LCD display. Write a program to display "CONTROLLER" rolling over it. 12

   (b) Explain Mode 0, Mode 1, Mode 2 and Mode 3 data communication mode. 8

8. (a) Explain Hardware circuit for multiple interupt to cover 256 interupts. 8

   (b) Write a program to measure the Pulse width of a pulse. 12

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