

Dec B (KUR)

Roll No.

Total Pages : 03

BT-7/D-13

8712

MICROCONTROLLERS

ECE-415-E

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt Five questions in all, selecting one question from each Section.

Section I

1. (a) What do you mean by Microcontrollers ?
Explain. 6
- (b) What components are normally put together with microcontroller into a single chip ?
Why ? 6
- (c) List four criterion for choosing a microcontroller. 8
2. Explain the differences between 4 bit, 8 bit, 16 bit and 32 bit microcontrollers. 20

(1-11) L-8712

P.T.O.

Section II

3. (a) Draw the pin-diagram of 8051. Also explain Rom memory map of 8051. 12
- (b) List the 4-ports of 8051. Explain. Also explain which port plays dual role. 8
4. (a) Explain the purpose of PSW Register in 8051. 6
- (b) Discuss Software generated interrupts in 8051. 6
- (c) Discuss memory space decoding and expanding of I/Os. 8

Section III

5. (a) Explain the various addressing modes of the 8051. 10
- (b) Discuss serial data transmission using time delay and poolings. 10
6. (a) Differentiate between S/W and H/W delays time. 8

L-8712

2

- (b) Write a program to add two 16-bit numbers. The number are 3CE7H and 3B8DH. Place the sum in R7 and R6; R6 should have the lower byte. 12

Section IV

7. Explain how to interface an ADC to the 8051. 20
8. (a) Discuss measuring of pulse width using 8051. 10
- (b) Explain values modes of serial data communication for 8051. 10

(1-11) L-8712

3

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