

Roll No.

Total Pages : 3

BT-8/D-17

38015

EMBEDDED SYSTEM DESIGN

Paper-ECE-424E

Time : Three Hours]

[Maximum Marks : 100

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

UNIT-I

1. Differentiate between :

- (a) Harvard architecture and Von-neuman architecture.
- (b) RISC and CISC. (10+10=20)

2. (a) Discuss advantages, disadvantages and uses of various types of semiconductor memories. 10

(b) Discuss function and purpose of the following:

- (i) Clocking
- (ii) Interrupts. 10

UNIT-II

3. (a) Explain core features and peripheral features of PIC16C7X microcontroller. 10

(b) Using suitable diagram explain how to access memory using direct and indirect addressing modes. 10

38015/950/KD/1489

[P.T.O.

4. (a) Explain purpose following registers with an example for each:

- (i) W
- (ii) STATUS
- (iii) FSR
- (iv) INDF
- (v) PC. 15

(b) Compare mov, movlw and movwf instructions with an example. 5

UNIT-III

5. Discuss the function of external Interrupt and Timers of PIC Microcontroller. 20

6. (a) Briefly explain purpose of following registers :

- (i) MR2IF
- (ii) PIR1
- (iii) PEIE
- (iv) TMR2IE
- (v) T2CON
- (vi) PR2. 12

(b) Explain working operation of UART in PIC16C7X microcontroller. 8

38015/950/KD/1489

2

UNIT-IV

7. Write assembly language programe for:
- (a) Stack operation.
 - (b) RAM direct addressing.
 - (c) Memory mapped I/O. (6+6+8=20)
8. Describe how to design PWM motor control system and Mouse wheel turning system using microcontroller? 20
-