40+40+2+1

(93)

T.E. Electrical VI CBSGS

Q. P. Code : 16497

8.6.17

[Time : 3 Hours] [ Total Marks : 80

Please check whether you have got the right question paper.

**N.B:**
1. Question **No.1** is **compulsory**.
2. Attempt **any THREE** from the remaining questions.
3. **Figures** to the **right** indicate **full marks**.

1. Attempt **any Four** questions : 20
   a) Explain the pipelining feature of PIC architecture?
   b) Write the difference between Microcontroller and Microprocessor.
   c) Draw and explain generic block diagram of Microcontroller.
   d) What are the different interrupt sources?
   e) Explain the following memory pointers :
      1) Program Counter
      2) File select Register
      3) Stack Pointer

2. (a) Which are the different addressing modes of PIC18 microcontroller? 10
   (b) Explain the given two SFRs called Table Pointer (TBLPTR) and Table Latch (TABLAT). In association with them explain the following instructions : 10
      1) TBLRD*+
      2) TBLRD*-
      3) TBLRD+*

3. (a) How the baud rate for serial communication is decided? Explain TXSTA and RCSTA registers used in serial communication. 10
   (b) Draw and explain the simple IO device interface (switches and LEDs) with PIC microcontroller and hence explain IO addressing. 10

4. (a) Write a program in C18 using Timer0 to generate a square wave of 1000Hz frequency on PORTB pin RB7.Use16 bit programming technique with 8 pre-scalar. The internal frequency of microcontroller is 10Mhz. 10
   (b) Explain the different types of instruction sets and mention two examples of each set. 10

5. (a) Explain stack and subroutine. Also explain the instruction associated with them. 10
   (b) Explain in detail the LCD interfacing with PIC18 microcontroller. 10

6. Write short notes on : 20
   (a) Global Interrupt Enable (GIE) and Peripheral Interrupt Enable (PEIE).
   (b) Stepper Motor interfacing with microcontroller.