Time:3 hrs **Marks: 80**

Question No 01 is compulsory.

Attempt any Three questions from the remaining questions.

Each question carries 20 marks.

Figure to the right indicates full marks.

Q. 1. Attempt any 04 sub-questions out of 05 sub-questions.

I] Discuss the concept of Access Bank in Pic18 microcontroller. **(05 marks)**

II] Enlist the differences between Interrupt and polling process. **(05 marks)**

III] What is timer roll over? Specify the significance of TMR0IF. **(05 marks)**

IV] Draw and Explain status register in Pic18 microcontroller. **(05 marks)**

V] Interpret the instructions TBLRD* and TBLRW* for Pic18 microcontroller. **(05 marks)**

Q. 2. A] What is meant by addressing mode in PIC 18F microcontroller? Demonstrate any three addressing modes with examples. **(10 marks)**

B] Draw the generic block diagram of PIC 18 Microcontroller and interpret all the internal peripheral devices. **(10 marks)**

Q. 3. A] Explain the different types of instruction sets and mention two examples of each set. **(10 marks)**

B] Explain the different assembler directives modes used in Pic18 microcontroller. **(10 marks)**

Q. 4. A] Explain the registers SPBRG, TxSTA registers associated with serial communication in PIC 18F. **(10 marks)**

B] Explain the CCP (Compare, Capture, and PWM) module in PIC18F4520 microcontroller in detail. **(10 marks)**

Q. 5 A] Demonstrate the steps taken by the microcontroller when interrupt occurs. Specify the necessary steps to enable TMR0 interrupt. **(10 marks)**

B] Write a C program to generate a square wave of 10ms period, Use Timer 0 in 16 bit mode, XTAL = 10MHz and prescalar of 128. **(10 marks)**

Q. 6 Write short notes on **(20 marks**
i] ADC module and associated registers with ADC
ii] Seven Segment LED Interfacing with PIC 18 Microcontroller.

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