

Duration – 3 Hours

Total Marks - 80

- Note:- (1) Question No.1 is compulsory.
(2) Attempt any three questions out of the remaining five questions.
(3) Assume suitable data if necessary and justify the same.

- Q 1.** Answer the following questions. (Any four) **20M**
- a) Write any five features of PIC18 microcontroller. **5M**
 - b) Write an Assembly language program to (i) clear WREG and (ii) add 05H to WREG 10 times and store result at 88H memory location. **5M**
 - c) Differentiate between serial and parallel communication. **5M**
 - d) Explain all flags present in the status word of PIC microcontroller. Draw status register. **5M**
 - e) Explain Timer0 control register in PIC 18 Microcontroller. **5M**
- Q 2 a)** Classify the different interrupting sources of pic18 microcontroller and hence explain the simplified vectored interrupt process with GIE and PEIE. **10M**
- Q 2 b)** Explain data transfer, arithmetic and logic Instruction set of PIC18F microcontroller. **10M**
- Q 3 a)** What is mean by addressing modes? Explain the different addressing modes used in Pic18 microcontroller. **10M**
- Q 3 b)** A switch is connected to pin RD7(PORTD.7). Write a C program to monitor the status of the switch and perform the following: (Draw the diagram) a) If the SW=0 (Open), Stepper motor moves Clockwise. b) If the SW=1 (Closed), Stepper motor moves Anticlockwise. **10M**
- Q 4 a)** Explain the registers associated with serial communication in PIC 18F. **10M**
- Q 4 b)** Write a C program to flash an LED connected at pin 3 of PORTB at a frequency of 2KHz.Use Timer0 in 16-bit mode, Crystal oscillator frequency = 10MHz, prescaler of 64. **10M**
- Q 5 a)** Explain the Capture, Compare and PWM module (CCPx) of Pic18 microcontroller. **10M**
- Q 5 b)** Explain the Analog to digital (ADC) module along with the control registers associated with it used in Pic18 microcontroller. **10M**
- Q 6** Write a short note on
- a) Seven segment LED interfacing with PIC18 Microcontroller. **10M**
 - b) LCD interfacing with PIC18 Microcontroller. **10M**