

Time : 3 Hrs.

Marks : 80

- N. B : 1) Question No 01 is compulsory.
 2) Attempt any Three questions from the remaining questions.
 3) Each question carries 20 marks.
 4) Figure to the right indicates full marks.

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

- I] Draw and explain the status register of Pic 18 microcontroller **(05 marks)**
- II] Compare the microprocessor with microcontroller **(05 marks)**
- III] Write a short note on Capture Mode of CCP module in Pic18 microcontroller. **(05 marks)**
- IV] Describe File Select Register (FSRx) and Stack Pointer (STKPTR) registers. **(05 marks)**
- V] Explain the SPBRG register used in USART module of Pic18. **(05 marks)**

Q. 2. A] What is mean by Assembler Directives? Explain any 05 assembler directives used in Pic18 microcontroller. **(10 marks)**

B] Explain the memory organization of Data Memory along with the concept of Access Bank of Pic18 Microcontroller. **(10 marks)**

Q. 3. A] What is mean by Addressing mode? Explain the addressing modes used in Pic18 microcontroller **(10 marks)**

B] Write a C program to generate 400 Hz frequency at RB3 pin of Pic18 microcontroller using Timer0 operated in 16-bit mode. The crystal oscillator frequency is 10MHz and Timer prescaler of 128. **(10 marks)**

Q. 4. A] Draw and Explain the GIE and PEIE bits with reference to simplified vectored interrupt. **(10 marks)**

B] Explain the TxSTA and RcSTA registers used in USART module of Pic18 microcontroller. **(10 marks)**

Q. 5. A] Explain the Table Write operation along with the instructions associated with it.

(10 marks)

B] Explain the ADCON0 and ADCON1 control registers of ADC module in Pic18 microcontroller. **(10 marks)**

Q. 6 Write **any 02** short notes.

i] LCD interfacing with Pic 18 microcontroller. **(10 marks)**

ii] DC Motor Interfacing with Pic 18 microcontroller. **(10 marks)**

iii] Stepper motor interfacing with Pic 18 microcontroller **(10 marks)**