

Chapter 1

I. 8 Marks

1. Explain in detail features of the PIC microcontroller.
2. Draw and explain the pin diagram of PIC18F458.

II. 4 Marks

1. Write a short note on Harvard and Von Neumann architecture.
2. Explain file register in the PIC18
3. With the neat diagram explain the concept of the CISC and RISC architecture.
4. With the neat diagram explain clock and reset circuit of the PIC.
5. Comparison of the PIC 12XX, 16XX and 18XX series.
6. Explain the status and W register of the PIC.

III. 1 Mark

1. PIC Stands for-----
 - i. **Peripheral interface controller**
 - ii. Peripheral integrated Circuit
 - iii. Peripheral interfacing Controller
 - iv. Peripheral interface controller
2. ----- is an example of the Harvard Architecture
 - i. **PIC**
 - ii. 8051
 - iii. 8085
 - iv. Both I & II
3. ----- feature/s of the PIC is related to the supply voltage.
 - i. **Brown out Reset**
 - ii. Watch Dog Timer
 - iii. I²C
 - iv. All of the Above
4. Bank selection is depends on the contents of ----- register.
 - i. **BSR**
 - ii. W
 - iii. Statuses
 - iv. INTCON
5. ----- flag is very important in BCD operation.
 - i. **Digit Carry**
 - ii. Overflow
 - iii. Zero
 - iv. Negative
6. For the oscillator selection -----configuration register of the PIC18 is used.
 - i. **Config1H**
 - ii. Config2H
 - iii. Config5H
 - iv. Config6H

Chapter 2

I. 8 Marks

1. Explain addressing modes of PIC18.
2. Explain literal values instructions of PIC18.
3. Explain byte oriented instructions of PIC18.

II. 4 Marks

1. Explain bit oriented instructions of PIC18.
2. Write a program (ALP/C) to generate a square wave at port B.
3. Write a program (ALP/C) to toggle port B.
4. Write a program (ALP/C) to convert BCD number to ASCII form.
5. Write a short note on the bank switching in PIC18.
6. Write a short note on stack and stack pointer in the PIC18.

III. 1 Marks

1. ----- is an unconditional jump in PIC18.

- i. **BRA** ii. **BNN** iii. **BZ** iv. **BNZ**
2. In instruction ADDWF f,d,a if d=1 then result store in -----register.
- i. **File** ii. **W** iii. **Both i and ii** iv. **None of the above**
3. After multiplication in PIC18 the result is stored in ----- register.
- i. **PRODH** ii. **PRODL** **iii. Both i and ii** iv. **W**
4. After execution of CALL instruction stack pointer is -----.
- i. **Incremented** ii. **Decrementd** iii. **remains same** iv. **Both ii and iii**
5. In PIC maximum instructions required ----- machine cycle for execution.
- i. **1** ii. **2** iii. **3** iv. **4**

Chapter 3.

I. 8 Marks

1. With proper program explain the timer 0 programming in 16-bit mode.
2. Write a program (ALP/C) to generate square wave with the period of 10mS.
3. Explain T0CON and T1CON register.

II. 4 Marks

1. Write a short note on sources of the interrupts in PIC18.
2. Explain the steps for enabling interrupts in PIC18.
4. Write a short note on interrupt priority in the PIC18.
5. Explain T0CON register.
6. Explain T1CON register.

IV. 1 Marks

1. In PIC18 clock period for the clock frequency 4 MHz is----- μ S.

- i. **1** ii. **2** iii. **3** iv. **4**

2. ----- bit of T0CON is used to timer 0 ON/OFF.

- i. **TMR0ON** ii. **T08BIT** iii. **T0CS** iv. **PSA**

3. The time delay in the timer of PIC18 is depend on ----- .

- i. **Crystal frequency** ii. **Timer 16-bit register** iii. **Prescaler option** iv. **All of the above**

4. PIC18 has ----- port change interrupt source.

- i. **B** ii. **A** iii. **C** iv. **D**

5. In PIC18 -----H locations is assigned to the high priority interrupt.

- I. 0008** ii. **0002** iii. **0003** iv. **0004**

Chapter 4

I. 8 Marks

1. With proper circuit diagram explain interfacing of MAX232 to PIC18. Write a program to transfer a letter 'G' serially with 9600 baud rate.
2. Explain ADCON0 and ADCON1 register.
3. Explain TXSTA and RCSTA register.

II. 4 Marks

1. Explain the importance of TXIF and RCIF flag.
2. Explain the quadrupling of baud rate.
3. Explain SPBRG register and baud rate in the PIC18.
4. Write an ALP to get analog input from channel 0 of ADC and displayed result on PORTC and PORTD.
5. Mention the steps of the programming A/D converter with polling.

III. 1 Marks

1. ----- bit of the ADC are used to check the start and end of conversion.
I. GO/DONE ii. ADCS1 iii. ADCS2 iv. ADON
2. ----- register of the PIC18 are used to set the baud rate.
i. SPBRG ii. TXREG iii. RCREG iv. RCREG
3. ----- register is used for quadrupling the baud rate in the PIC18.
I. TXSTA ii. TXREG iii. RCREG iv. RCREG
4. The baud rate in the PIC18 is depends on -----.
I. Crystal frequency ii. BRGH bit of TXSTA iii. SPBRG iv. **ALL of the Above**
5. ----- bit of the TXSTA register is used as a transmit enable of serial port.
I. TXEN ii. BRGH iii. TRMT iv. TX9D