UNIT – I&II

PIC MICROCONTROLLER

PART-A

1. What are the groups of instruction set in PIC micro controller?

2. Using the instruction of PIC micro controller convert BCD to hex.

3. Name the addressing modes of PIC micro controller.

4. What type of architecture is there in PIC micro controller?

5. List the functions of I/O port in PIC micro controller.

6. What are modes of operation of timers in PIC micro controller?

7. What is instruction pipe lining?

8. What are the benefits of having RISC architecture?

9. Give the role of watch dog timer in PIC micro controller.

10. Write the importance of RTOS for real time application.

11. Write an assembly language program for BCD to ASCII conversion using PIC instruction set.

12. Draw the instruction pipe line & mention its significance.

13. What is RISC?

14. Mention the few features of Harvard architecture.

15. How do you make a port as I/P & O/P port in PIC micro controller?

16. Write one example for immediate & direct addressing mode in PIC micro controller.

17. Write a C18 program to toggle all the bits of Port A continuously.

18. Write an assembly language program for BCD to binary conversion using PIC.

19. Write a C18 program to set bit RB0 and send it to RC7 after inverting it.

20. What is RISC architecture?

PART – B

1. With a neat diagram discuss in detail about the architecture of PIC micro controller. (16)

2. Discuss in detail about the function of various port pin of PIC micro controller (16)

3. Explain the different addressing modes of PIC micro controller. (8)

4. Discuss in detail about the memory organization of PIC micro controller. (16)

5. Discuss about the various function of PORT in PIC micro controller. (8)

6. Write a program to read the data, convert to ASCII and displays it in a micro controller.

(8)

7. Write a program in PIC micro controller to multiplying 'N' byte numbers.   (8)

8. Explain the RAM and ROM allocation PIC C18 compiler.   (8)

9. Write an assembly language program to add two numbers stored in location 07H & 08H.

                    (8)

10. A switch is connected to pin RC6. Write a program to check the status of SW and do the following.

   ➤ If SW =0, send letter 'N' to PORTA.

   ➤ If SW=1, send letter 'Y' to PORTA   (8)

UNIT – III& IV

PERIPHERAL OF PIC MICROCONTROLLER

PART – A

1. Using PIC micro controller how is analog signal is converted into digital signal?
2. What is flash memory?
3. What are interrupts available in PIC micro controller
4. Which port will support for external interrupt in PIC.
5. Draw the bit pattern for configuring the USART.
6. What is the main function I^2C interface?
7. What are the main difference flash memory & EEPROM?
8. Mention the special functions of PORTA.
9. Why flash memory is mostly preferred than other memory?
10. What is key debouncing?
11. Draw the instruction pipeline and mention its significance
12. What is the role of watch Dog timer in PIC microcontroller?
13. What are the timer modes in PIC?
14. List the function of I/O ports in PIC.
15. What is C Compiler?
16. List the features of USART.
17. List out the features of CCP module
18. What is CCP module
19. List the pins/signals used for ADC interfacing.
20. List the pins/signals used for Sensor interfacing

PART-B

1. Explain in detail about the compare and capture mode of the PIC micro controller with a neat diagram. (8)
2. Discuss in detail about the following

      a. DAC

      b. Timers

      c. Interrupt

             (16

)

3. Write a detailed note on the FLASH & EEPROM memories. (8)

4. Explain the UART in PIC micro controller. (8)

5. Write a detailed note on I^2C bus. (8)

6. Discuss the role of MP-LAB in PIC programming. (8)

7. Write a detailed note on ADC0804 chip. (8)

8. Write a short notes on ADC interfacing in PIC micro controller. (8)

9. Briefly explain the I^2C interfacing using PIC micro controller. Give the special function register involved & the corresponding wave form.

             (16

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10. Draw and explain compare, capture and PWM module 1 & 2 of PIC micro controller with their associative register.

   (6)

11. Write short notes on CCP modules. (8)

12. Briefly explain the sensor interfacing using PIC micro controller. (8)

13. Determine the pulse width of positive going pulse to RC2/CCP1 pin of P1 micro controller. Assume that OSC=4MHz and that the pulse width is less than 65,535μs and longer than 300μs. Write an assembly language program for the given specification using PIC instruction set.

   (8)

14. Draw and explain the architecture of on chip ADC of PIC micro controller in detail andwrite a suitable assembly language program for configuring the ADC.

   (16)