**List of Programs**

1. a. Write an ALP to copy block of 10bytes of internal RAM from 0X30-0X39 to 0X40-0X49

b. Write an ALP to generate a square wave of 1.5 KHz, use Timer 1 in Mode2.

1. a. Write an ALP to copy block of 10bytes of internal RAM from 0X30-0X39 to 0X35-0X3D

b. Write an ALP to count decimal numbers from 99 to 00

1. a. Write an ALP for -Block exchange – 10bytes of data between 0X30-0X39 to 0X40-0X49 without using XCH instruction.

b. Write an ALP to find cube of CAH.

1. a. Write an ALP for -Block move - 10bytes of data from 0X30-0X39 to 0X9000-0X9009

b. Write an ALP to count decimal numbers from 00 to 99

1. a. Write an ALP for - Find the Largest number in 10bytes of data from 0X60-0X69 and also count the number of positive numbers in the array.(R3 – should have the largest number and R4 – should have address of the largest number)

b. Write an ALP for – i. Find 2’s complement of a number,

ii. Packed to Unpacked BCD

1. a. Write an ALP to perform Block exchange of 10bytes of data from internal RAM 0X30-0X39 to external memory 0X1000-0X1009.

b. Write a C program to transfer ‘MICROCONTROLLERS’ and receive any data provided by the user on Serial communication port

1. a. Write an ALP for - Smallest number in 10bytes of data from 0X30-0X39 (R0– should store the smallest number and R7 – should store address of the smallest number)

b. Write an ALP to count the number of 1’s in 10 bytes stored in an array from 50H-59H and respective counts in 10H-19H.

1. a. Write an ALP for - Searching an element in the 10bytes of data from 0X30-0X39 (R3 =1, if element is found else R3=0) and also verify the found number is odd or even

b. Add 7F4DH and CA5FH and store the result in internal RAM locations 77H,78H,79H (least significant byte should be in 79H)

1. a. Write an ALP for - Sorting 10bytes of data from 0X30-0X39 in Ascending order

b. Write an ALP to add 05 bytes stored in internal RAM 50H-59H.

1. a. Write an ALP for - Sorting 10bytes of data from 0X30-0X39 in Descending order

b. Write an ALP for - HEX up/down counter - (Program should check value @R0=0X30, if 0X30=0 then up counter else down counter)

1. a. Write an ALP to - Add, subtract, divide and multiply 8 bit number with immediate data

b. Write an ALP to compare two 8 bit numbers num1 and num2 store in external memory locations 8000H and 8001H respectively. Reflect your result as :

if num1< num2 --> set LSB of data RAM location to 2FH (bit address78H)

if num1 > num2 --> set MSB of location 2FH (bit address 7FH)

if num1 = num2 --> clear both LSB and MSB of bit addressable memory location 2FH

1. a. Write an ALP to perform addition of 32 bit number

b. Write a C program to transfer ‘MCS - 8051’ and receive any data provided by the user on Serial communication port and send it to LCD connected to port 1

1. a. Write an ALP to find whether a byte of data is palindrome or not. if palindrome store FFH in Accumulator else 00H

b. Write an ALP to convert a Hexadecimal number to Decimal

1. a. Write an ALP for - i. Unpacked BCD to ASCII ii. ASCII to BCD

b. Write an ALP for - generation of 20ms delay without using timers and using call and return instruction.

1. a. Write an ALP to simulate 4X1 Multiplexer

b. Write an ALP to perform logical operations AND, OR, XOR on two 8 bit numbers stored in internal RAM 21H and 22H