Assignment No. IV

Subject:- Microcontroller and its Applications

NEC-022

Q.1 WAP to display counter 0 on 7-segment LEDs. Assume that clock input is connected to pin (P3.4)

Q.2 Write an Assembly language program to make LED ON and OFF connected to P 1.0 continuously with ON time 20 msec and OFF time 40 msec.

Q.3 Write an Assembly language program to generate a square wave of frequency 5 kHz on pin P3.0 using auto reload mode of timer 0 in 8051.

Q.4 Write an Assembly language program to send the text string "AMERICA" to serial #1 set the baud rate at 9600. 8 bit and 1 stop bit using Timer 1.

Q.5 Write an 8051 assembly language program to transfer the message "HELLO" serially at 9600 baud, 8-bit data, 1 stop bit.

Q.6 Write a program to generate a triangular waveform/ square wave using DAC.

Q.7 Write a program to convert analog data into digital data with the help of ADC 0804 using conversion and display subroutine.

Q8 Write an Assembly language program to generate a square wave with an ON time of 4ms and OFF time of 10 ms on all pins of port 0. Assume an XTAL of 22 MHz.

Q.9 Interface LCD to 8051 and write an 8051 assembly language program to send 'H', 'E', 'L', 'L', 'O' to LCD display.

Q.10 Write a program for rotating the stepper motor in anticlockwise direction using half step, 8 step sequences. Draw the connection between 8051 and unipolar stepper motor.

Q.11 A simple 8-bit analog to digital convertor device as shown is to be interfaced to an 8051 Microcomputer. The READY line goes low when conversion data is available. The READY line should be used to interrupt the 8051 microcontroller.