Embedded Systems and IoT Laboratory

Course Code	**18CSL68**	**Credits**	1.5
Course type	LAB	**CIE Marks**	25 marks
Hours/week: L-T-P	0-0-3	**SEE Marks**	25 marks
Total Hours:	36	**SEE Duration**	3 Hours for 50 marks

Sl No	**Title of the Experiment**	**Connection Details**
1	Develop an 8051 'C' program to implement MOD-4 (UP/ DOWN) counter on LEDs connected to Port 2. Include **1second** delay between each count. Generate delay using ***for loop***.	Port 2 to CN11
2	Develop an 8051 'C' program to implement MOD-4 (UP/ DOWN) counter on LEDs connected to Port 2. Include **0.5 second** delay between each count. Generate delay using ***for loop.***	Port 2 to CN11
3	Develop an 8051 'C' program to implement MOD-4 counter on LEDs connected to Port 2 using Hardware delay. Use Timer1 in Mode 1 to generate a delay of ---- ms.	Port 2 to CN11
4	Develop an 8051 'C' program to implement MOD-4 counter on LEDs connected to Port 2 using Hardware delay. Use Timer1 in Mode 2 to generate a delay of ---- ms.	Port 2 to CN11
5	Develop an 8051 'C' program to generate the following waveforms using DAC 0800 interface i) Square ii) Triangular	--
6	Develop an 8051 'C' program to generate the following waveforms using DAC 0800 interface i) Rectangular wave with 70% duty cycle. Assume T=100ms ii) Positive Ramp	--
7	Develop an 8051 'C' program to generate the following waveforms using DAC interface i) Square ii) Negative Ramp	--
8	Develop an 8051 'C' program to interface 2x16 LCD display and to display the following two strings. (Start displaying from 1st position on both lines) i) KLS GIT ii) ESIoT LAB	Port 2 to CN6
9	Develop an 8051 'C' program to interface 2x16 LCD display and to display the following two strings. (Start displaying from 6th position on both lines) iii) CSE iv) BRANCH	Port 2 to CN6
10	Develop an Embedded 'C' program to blink the LEDs connected to Arduino SBC upon pressing the push buttons.	CN9 to CN4
11	Develop an Embedded 'C' program to interface the sensor DHT11 to Arduino SBC and display the data acquired from sensors on serial monitor.	RM2 to RM19
12	Develop an Embedded 'C' program to control the relay through Arduino UNO.	RM17 to RM9
13	Develop an Embedded 'C' program to interface the sensor LDR to Arduino SBC and display the data acquired from sensor on serial monitor.	RM3 to RM20
14	Develop a python program for Raspberry Pi to turn "ON" and "OFF" the buzzer.	RM9 to RM17
15	Develop an Embedded 'C' program to interface the sensor DHT11 to Arduino SBC and display the data acquired from sensors on serial monitor. Turn ON the relay when temperature is greater than 22 degree centigrade.	RM2 to RM19 And RM17 to RM9