Sr No.	PRACTICAL OUTCOMES (PrOs)	CO NO.
1	Interpret the given microcontroller trainer ,with the microcontrollers used in the board and list the features	1
2	Identify the pins and features of PIC and ARM microcontrollers.	2*
3	Interpret the embedded C data variables, operators and syntax for the development of embedded system	2
4	Execute the C program to perform following arithmetic operations on -addition, subtraction, multiplication and division	2*
5	Execute the C program to perform transfer of data from source to destination internal data memory location	2
6	Execute embedded C program to find out maximum/minimum number and display the result on P1.	
7	Execute the C program to perform Serial transfer of message “WELCOME”. On LCD display with 8051.	2
8	Execute the C program to turn LED ON and off with 5 second delay using timers of 8051	2
9	Execute the C program to make LED ON through switch.	2*
10	Execute the C program to turn LED ON through using interrupt approach	
11	Execute the C program to display numbers 0 to 9 on 7-segment display with some delay.	2
12	Execute the C program to display numbers 00 to 99 on 7-segment display with some delay with 8051	2
13	Execute the C program to covert analog to digital by using ADC 0808 with 8051	2*
14	Execute the C program to covert digital data to analog by using DAC 0808 with 8051	3*
15	Execute the C program to generate sine wave using DAC 0808 with 8051	3
16	Execute the C program to rotate the stepper motor	3
17	With different modes of communication list out examples in day to day life.	3
18	Identify the different PIC microcontroller for various applications.	4
19	USE AVR advanced microcontroller for controlling devices .	4
20	Interpret the family of the microcontroller with Ardunio.	4*
21	Interface LED with Arduino UNO and write program to blink it with delay.	5
22	Interface LED with Ardunio UNO and write program to blink it with on pressing the switch.	5
23	Interface LED with Ardunio UNO and write program to fade it with potentiometer	5
24	Interface Relay to Ardunio UNO. Execute a program to switch on device through relay.	5
25	Interface dc motor to Arduino UNO. Execute C language program to rotate dc motor in clockwise and counter clockwise direction	5
26	Interface 16 x 2 LCD to Arduino UNO. Execute embedded C language program to display string on it.	5
27	Interface a 4 x 4 matrix keyboard and 7-segment display to Ardunio UNO. Execute C language program to read and display key code on 7-segment display.	5*
28	Interface 8 bit ADC to Arduino UNO. Execute C language program to read data of ADC and store the converted digital data in memory.	5

29	Interface 8 bit DAC to Ardunio UNO. Execute C language program to generate square, sawtooth and triangular waveforms.	5
30	Interface stepper motor to Ardunio UNO. Execute C language program to rotate stepper motor with different speed in clockwise and counter clockwise direction.	5*
31	Identify the operating system for Real time operation.	6*