



**MICROCONTROLLER AND EMBEDDED SYSTEMS
LABORATORY
SEMESTER – IV**

List of experiments

Sl No	Experiments	Video links
PART A Conduct the following experiments by writing program using ARM7TDMI/LPC2148 using an evaluation board/simulator and the required software tool.		
1.	Write a program to multiply two 16 bit binary numbers.	https://youtu.be/8fGwEZtvq1M
2.	Write a program to find the sum of first 10 integer numbers.	https://youtu.be/PwyiOFF0rU
3.	Write a program to find factorial of a number.	https://youtu.be/HwsUKkrP_Fc
4.	Write a program to add an array of 16 bit numbers and store the 32 bit result in internal RAM	https://youtu.be/K2oBNTTzeYM
5.	Write a program to find the square of a number (1 to 10) using look-up table.	https://youtu.be/wOsXEk2NtTM
6.	Write a program to find the largest/smallest number in an array of 32 numbers .	https://youtu.be/hffelk9gbfM
7.	Write a program to arrange a series of 32 bit numbers in ascending/descending order.	https://youtu.be/64wQzj2PI70
8.	Write a program to count the number of ones and zeros in two consecutive memory locations.	https://youtu.be/ToNVEUToTcY
PART -B Conduct the following experiments on an ARM7TDMI/LPC2148 evaluation board using evaluation version of Embedded 'C' & Keil Uvision-4 tool/compiler.		
9.	Display "Hello World" message using Internal UART.	https://youtu.be/huEEpvcxKc8

10.	Interface and Control a DC Motor.	https://youtu.be/7YNVDR47hRY
11.	Interface a Stepper motor and rotate it in clockwise and anti-clockwise direction.	https://youtu.be/BpGZuAghnBM
12.	Determine Digital output for a given Analog input using Internal ADC of ARM controller.	https://youtu.be/LKHApAvQ6HM
13.	Interface a DAC and generate Triangular and Square waveforms.	https://youtu.be/ZiqfaY71J1Y
14.	Interface a 4x4 keyboard and display the key code on an LCD.	https://youtu.be/pKsloVmqRcc
15.	Demonstrate the use of an external interrupt to toggle an LED On/Off.	https://youtu.be/t6SUFpUh7U
16.	Display the Hex digits 0 to F on a 7-segment LED interface, with an appropriate delay in between	https://youtu.be/6s66AV7AbZw