

# **Design and Construction of Arithmetic Logic Unit using 16F84A and 16F877A PIC Microcontrollers**

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## **Abstract**

*A microcontroller based electronic circuit designed and constructed to do arithmetic logic unit (ALU) operation. Sixteen switches are used as inputs by using LED indicators. The output results are displayed with 8 LED indicators. PIC 16F84A used at 4\*4 keypad encoder while PIC 16F877A is used to perform ALU operation. The PIC BASIC PRO programming language together with Micro Code Studio IDE package is used to implement necessary software instruction into the microcontroller. The number of Input / Output pins required for the ALU is more than that of Input/ Output pin available in the single microcontroller unit. Therefore, two microcontrollers are used for this research work.*