Izmir Institute of Technology
Elec. & Electronics Eng. Dep.
Circuit Lab.

OPERATIONAL AMPLIFIERS
Lab#4

Pre-lab #4

1- Calculate the theoretical gain of both the inverting and non-inverting amplifier circuit.

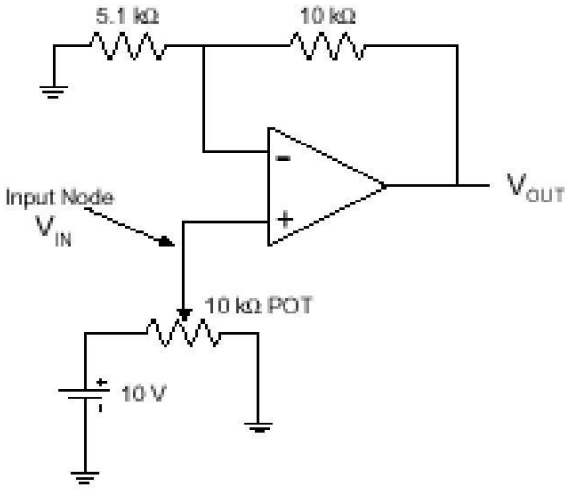

Figure 4.1

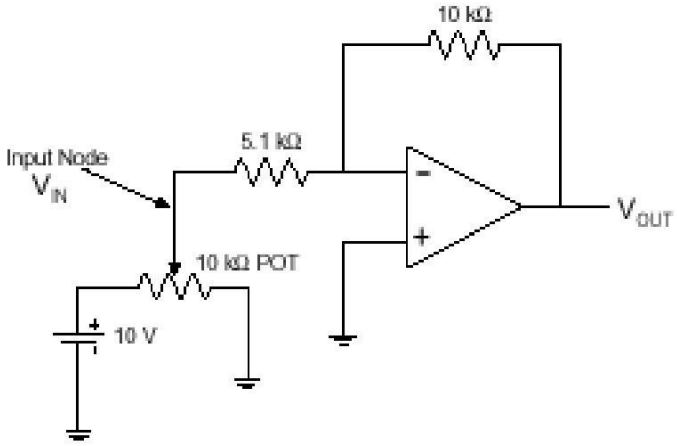

Figure 4.2

2- Find the datasheet of the LM741 and draw the internal block diagram.

Instructional objective

In this experiment, the properties and some applications of operational amplifiers (opamps) will be studied. In particular, the **741 op-amp** will be considered.

Procedure

1. Set up the circuit in Fig. 4.1:

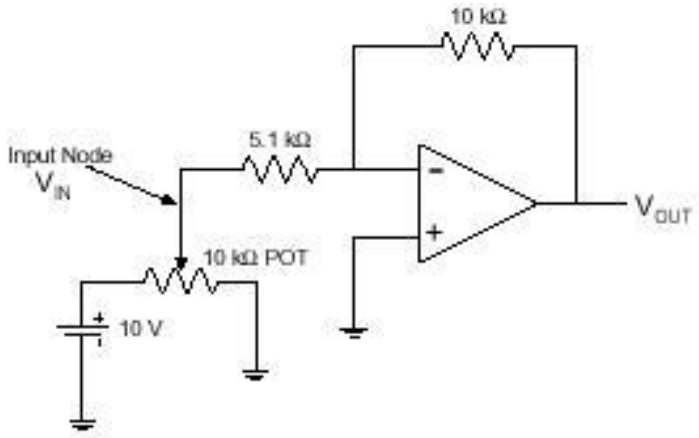

Figure 4-1. Inverting Op-amp

2. For the chip supply voltages connect pin 4 to –10VDC and pin 7 to +10V DC.

3. Adjust the 10 kΩ potentiometer (POT) until the voltage at the input node is 0.

4. Increase the voltage at the input node from 0 to 10 volts in 1 volt increments, recording the output voltage at each increment. These measurements will be used in the lab report to find the gain of the circuit and graph the input/output characteristics.

5. Construct Fig. 4.2:

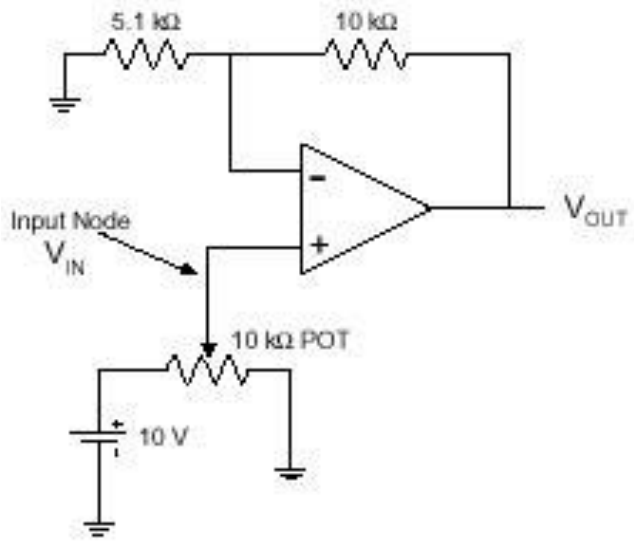

Figure 4.2 - Non-Inverting Op-amp

6. Repeat steps 2 through 4 for the non-inverting circuit.