Lab experiment 2: Part2: Opamp circuits

1. This part should not take more than 1.5 hrs.
2. Download the datasheet of IC741 from internet. You will get the pin diagram of this IC, which will be necessary for making connections.
3. Connect the circuits shown in Fig.1. Use R_1=1k and R_2=10k.
4. **Make power supply connections properly. Note that the IC uses dual power supply i.e., +/-12V. Do not forget to connect the power supply GND to the circuit GND. Get the connections checked from your TA before powering the circuit.**

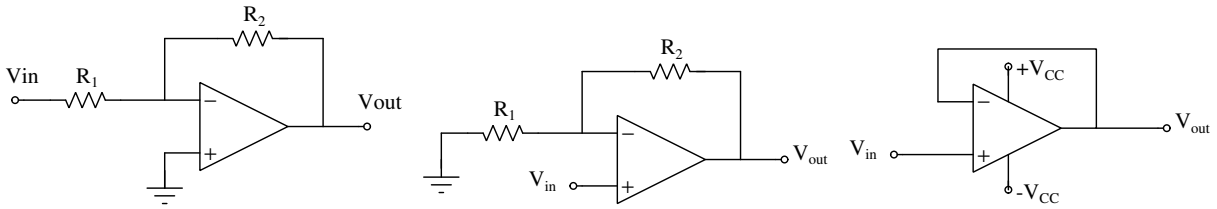

Figure 1: Basic OPAMP circuits

5. Apply input sinusoidal signal of 1Vp-p, 1kHz. Observe the input and output voltage waveform in each case.
6. Comment on these waveforms.
7. Connect the circuit shown in Fig.2.

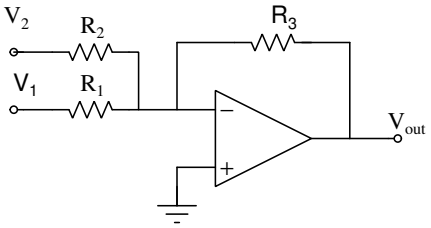

Figure 2: OPAMP adder

8. Use R_1=R_2=R_3=10kΩ.
9. Set V_1=5V DC and V_2=1V DC and measure V_{out}.
10. Now set V_2 = 1Vpp, 1kHz and observe V_{out} with reference to V_{in}.
11. Connect the circuit shown in Fig. 3.
12. Use R_1=R_2=R_3=R_4=10kΩ.
13. Repeat steps 9 and 10 for this circuit.

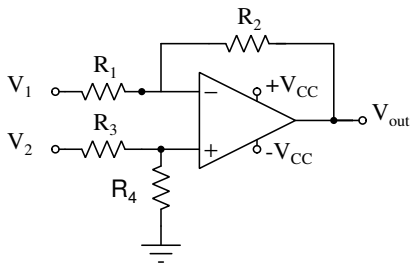

Figure 3: OPAMP subtracter