**SYSC 3203: Fall 2019**

**Lab 1B Report**

Submit this page to the lab instructor.

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**1: Gain Stage Design**

1.1: **Choose resistors** $R\_{1}$ **and** $R\_{2}$ **to give a voltage gain of x40. Show your calculations.**

1.2: **Choose** $C\_{f}$ **to make the gain of your circuit start to roll off above approximately 1 kHz. Show your calculations.**

**2: Gain Stage Assembly**

2.1 Sketch the circuit diagram for your amplifier circuit.

2.2: Draw a schematic of your circuit, showing the chip layout for the OP97 op-amp and labeling all of its terminals. Please also label the testing points for your circuit.

**2.3: Show your TA that your circuit achieves the designed gain value.**

Verified: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date/Time:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.4: Estimate the 3dB rolloff frequency of your circuit i.e. the frequency at which the output voltage reaches 1/√2 of its value at DC. Verify the result with your TA.

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