Experiment (2):
OP-AMP AUDIO AMPLIFIER

- **Objectives**

- To measure the open-circuit voltage gain, loaded voltage gain, input resistance, and output resistance of the common emitter amplifier.

- To evaluate the common emitter amplifier using the small-signal equivalent model.
- To demonstrate the differences in voltage gain and input resistance due to the removal of the emitter bypass capacitor.

- **Procedure**
  - Identify the op-amp configuration
  - Applying the signal generator's frequency set to 300 Hz, Vs = 50mVp-p and the supply voltage of +15 Vcc and -15 VEE in figure 2.1;
  - Calculate the maximum and minimum voltage gains of the op-amp.
  - What is the maximum rms output of the op-amp stage if the input is 50 mVrms?
  - Determine the ideal maximum power delivered by the audio amplifier to an
  - Speaker
  - From the scope display , determine the rms value of each voltage.
  - Determine the voltage gain of the op-amp stage from the measured signals.
  - Determine the overall voltage gain from the measured signals.

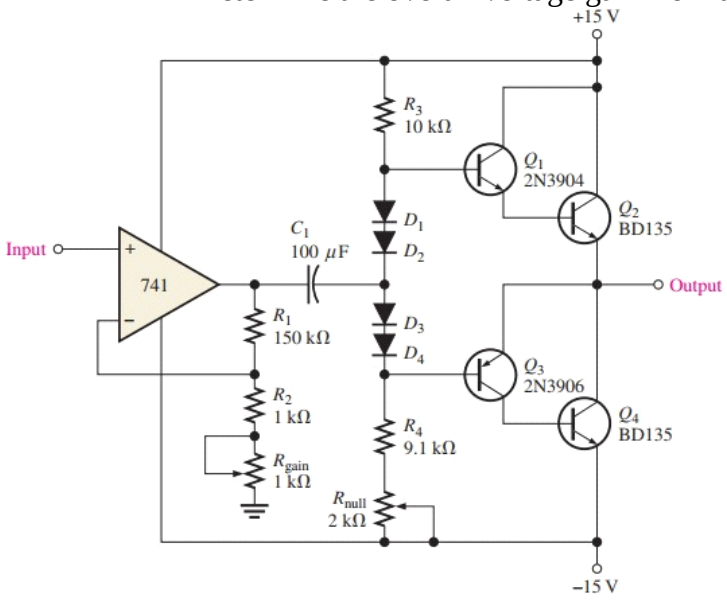

Figure 2.1