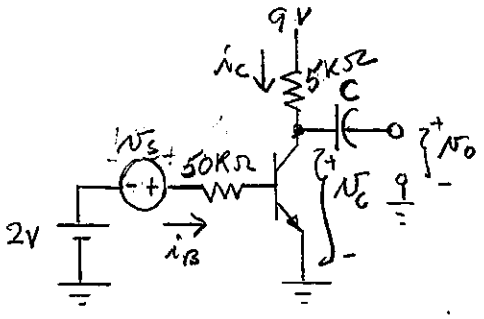
ECE 252 **Introduction to Electrical Engineering** **Quiz 17P**
100 Points **Show your work.** **Practice**

1. (35) Sketch and label the circuit for a full-wave rectifier. You have a 4 V rms, 60 Hz power supply, four silicon diodes, and a 200 Ω load. What is the maximum current in any diode? What is the minimum PIV of the diodes?

2. (35) The β of the transistor below is 20. Find i_B, i_C, v_C, and v_o. Assume that the voltage drop between the base and emitter is 0.7 V.



3. (15) Sketch and label a clamping circuit. Describe how it works. Assume a sinusoidal source of 5 V rms and an ideal diode. Give the maximum and minimum values of the output voltage.

4. (5) If an amplifier passes all frequencies between 10 kHz and 15 kHz, what is the approximate rise time of the amplifier?

5. (5) Most red LEDs have a forward voltage drop of about _____ V.