Physics 230 Lab

Transistors I

1. Emitter Follower

Apply various signals to $V_{in}$ and measure $V_{out}$. Sketch what you see and explain your result. To show why an emitter follower is useful, set the function generator to a moderate value and measure its output with no load. Attach a 100 ohm load, and measure $V_R$. Repeat using an emitter follower amplifier between the function generator and 100 ohm load.

2. Build a gain of 15 common emitter amplifier.
   - Measure the quiescent voltages at the base, emitter, and collector.
   - Measure its maximum output and input without clipping. Understand why clipping occurs.
   - Measure the frequency response.