EE 5305
Problem Set #7
Due Friday October 29, 2010

Read sections 5.1, 5.2, 5.3, and 5.4.
This is the 21st century with graphic cards and printers. Do not use .plot or .print commands in Spice. Rather use graphics output for plots, such as .probe in PSPICE.

1. Problem 5.1 For the Spice part in part c, use the transistor parameters given on page 106 in the text. Make sure to include the netlist and circuit diagram in your Spice analysis. Compare your analytical work with the Spice results.

2. Problem 5.2
Make sure to label the $I_{c1}$ and $V_{ce}$ axis with your numerical values.

3. Problem 5.14
$V_i$ swings Q3 between cutoff and saturation. Its collector voltage then determines the state of Q1 and Q2. Note that the voltage drop across $R_1$ is important for one state but not for the other. Also in these problems, take care to distinguish between peak power, average AC power and DC power.