Student Name_____

100 pts   Project #3 Simulation: (Hand in to homework locker by due date)
35 pts   HAND CALCULATIONS:

_____   1. (5 pts)   Draw a Hybrid-π equivalent circuit.

_____   2. (10pts)   Calculation of overall Voltage Gain (from hybrid-π model).

_____   3. (10pts)   Correct calculation of R_{out} (from hybrid-π model).

_____   4. (10pts)   Correct calculation of Ri (from hybrid-π model).

65 pts   SIMULATION:

_____   5. (5pts)   Printout of circuit schematic.

_____   6. (10pts)   Verification that DC values put transistor(s) at an acceptable bias point. (Voltages and currents throughout the circuit verify transistors are ACTIVE for BJT and SATURATION for MOSFET)

_____   7. (10pts)   AC Bode plots (10Hz to 200kHz) of overall gain stage with estimated load attached.

_____   8. (15pts)   Transient simulations that show amplification of at least 80V/V for a $1mV$ input at 100Hz and 30kHz with estimated load attached.

_____   9. (10pts)   Plot of output impedance vs. frequency.

_____   10. (15pts) Comparison table between hand analysis and simulation for DC current and voltage values(voltages at each node of transistor and current through each branch) for each stage, gain for each stage and overall gain, R_{in} and $R_{out.}$

_____/100____ **Total**

Student Name_____

FOR REGRADING: Please submit a copy of this graded page along with the work to be regarded. You will receive a 10% reduction from the difference between the regrade and your original grade.

Regrade Comments:

_____   1. (5 pts)   _____   6. (10pts)

_____   2. (10pts)   _____   7. (10pts)

_____   3. (10pts)   _____   8. (15pts)

_____   4. (10pts)   _____   9. (10pts)

_____   5. (5pts)   _____   10. (15pts)

_____/100 **Regrade Total**