Consider the given circuit with $\beta = \beta_0 = 100$, $RS=100K$, $RL=100$ Ohm, $I_1=5mA$ and $C1$ is very large.

a) (2) Draw the DC model for the circuit and calculate bias conditions

b) (2) Draw the AC model for the circuit and calculate any necessary model values.

c) (2) What impedance does Vin and RS see looking into the circuit?

d) (2) What impedance does RL see looking back into the circuit?

e) (2) Find the voltage gain of the circuit.