ECE 321 - Homework #5

2-port models, CE, CB, CC Amplifiers. Due Monday, December 4th, 2017

1) Determine the Q-point for the following circuit. Assume a 3904 transistor ($\beta = 200$)

2) Modify this circuit so that the Q-pont is Vce = 6.0V

3a) Draw the small-signal model for your circuit of problem #2 when set up as a common emitter (CE) configuration

3b) Determine the 2-port model for this amplifier in a CE configuration.

4a) Draw the small-signal model for your circuit of problem #2 when set up as a common base (CB) configuration

4b) Determine the 2-port model for this amplifier in a CB configuration.

5a) Draw the small-signal model for your circuit of problem #2 when set up as a common collector (CC) configuration

5b) Determine the 2-port model for this amplifier in a CC configuration.

6) Determine the 2-port model for a 4-stage amplifier:

CB : CE : CE : CC