ECE 321 - Homework #6

CE / CC / CB Amplifiers. Due Monday, December 5th

1a) Draw the small signal model for the transistor circuit below connected in commom emitter (CE) configuration.

1b) Determine the 2-port model for this circuit in CE configuration.

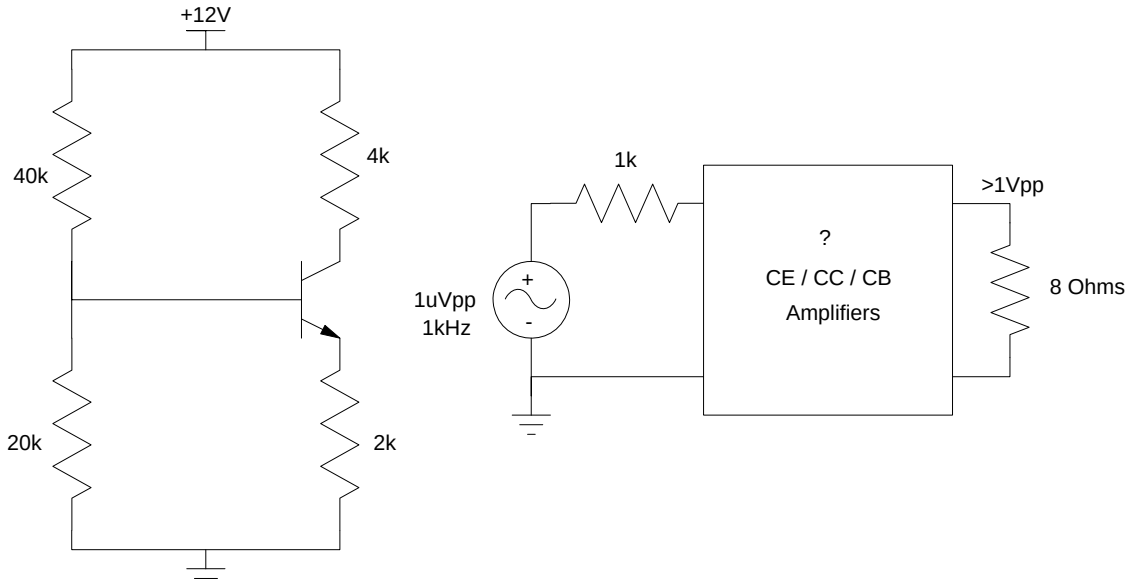
2a) Draw the small signal model for the transistor circuit below connected in commom base (CB) configuration.

2b) Determine the 2-port model for this circuit in CB configuration.

3a) Draw the small signal model for the transistor circuit below connected in commom collector (CC) configuration.

3b) Determine the 2-port model for this circuit in CC configuration.

4) Design a multi-stage amplifier using CE / CC / CB amplifiers to amplify a 1uVpp signal to >1Vpp at 8 Ohms.



Problem 1-4: BJT Circuit for CE / CC / CB Amplifiers. Beta = 100

Term Project: Select one part of your term progect. For this part, give

5) Requirements: Specify the inputs, outputs, and how they relate.

6) Analysis. Calculations for a circuit that meets your requirements.

7) Test: Simulate your circuit to check your analysis.

8) Validation: Build your circuit in lab and collect data to validate it meets your requirements.