ECE 476 - Spring 2021
Chapter 7 Problems

January 7, 2021

Problem 1.   Common-Emitter (CE) Amplifier

Textbook problem: 7.125 (Hint: What author calls R_{in}, I call R'_{in}.)

Problem 2.   Common-Emitter (CE) Amplifier

Textbook problem: 7.129

Problem 3.   CE Amplifier With Emitter Degeneration

Textbook problem: 7.58

Assume $\beta = 250$ and determine the following:

- The input resistance looking directly into the base of the BJT, R_{in}.

- The input resistance as seen by the source, R'_{in}.

- The voltage gain, $A_v = \frac{v_{o2}}{v_i}$.

There is no need to derive the voltage gain expressions since we did that in class.

Problem 4.   Emitter Follower

Textbook problem: 7.134 (Just assume $\beta = 125$.)