CHAPTER 6 QUESTIONS

COMMON- EMITTER AMPLIFIER (a)
\( V_{cc} = 20V, R_1=180K, R_2=20K, RE=2K, RC=5K, \beta = 80 \)

1- Let \( r_E = 1 \text{ ma} \). What is the base-emitter resistance \( r_E \)?

2- If the input impedance \( r_{IN} = r_E + R_E \sim R_E \) what is the approximate input impedance of the common-emitter amp?

3- What is the voltage gain \( A_V \) of the amplifier?

4- What is the approximate output impedance if the input signal generator has a 600\( \Omega \) impedance?

EMITTER-FOLLOWER AMPLIFIER (b)
\( V_{cc} = 20V, R_1=180K, R_2=20K, RE=2K, RC=5K, \beta = 150 \)

5- Using a \( \beta=150 \) transistor what value of \( R_E \) will produce a 1M input impedance.

6- What is the output impedance of this emitter-follower?

![Common-emitter amplifier diagram](a)
![Emitter-follower amplifier diagram](b)