Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (please print)

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ECE 3455 -- Quiz #6

# May 3, 2010

Keep this quiz closed and face up until you are told to begin.

1. This quiz is closed book, closed notes. You may use one 8.5” x 11” crib sheet, or its equivalent.

2. Show all work on these pages. Show all work necessary to complete the problem. A solution without the appropriate work shown will receive no credit. A solution that is not given in a reasonable order will lose credit. Clearly indicate your answer (for example by enclosing it in a box).

3. It is assumed that your work will begin on the same page as the problem statement. If you choose to begin your work on another page, you must indicate this on the page with the problem statement, with a clear indication of where the work can be found. **If your work continues on to another page, indicate clearly where your work can be found. Failure to indicate this clearly will result in a loss of credit.**

4. Show all units in solutions, intermediate results, and figures. Units in the quiz will be included between square brackets.

5. Do not use red ink. Do not use red pencil.

6. You will have 45 minutes to work on this quiz.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/20

Room for extra work

In the circuit shown, the transistor has ** = 100, and operates at room temperature. The value of the source *vI(t)* is given below.

1. Find the voltage *VC*.
2. Find the voltage gain  in the passband.
3. Find the input resistance seen by the source *vI(t)* in the passband.





Room for extra work

ECE 3455 -- Quiz #6 – May 3, 2010 –Shattuck Section Solution

In the circuit shown, the transistor has ** = 100, and operates at room temperature. The value of the source *vI(t)* is given below.

1. Find the voltage *VC*.
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