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

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

ECE 2300 – Quiz #2

February 23, 2016

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 which is not given in a reasonable order will lose credit.

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 30 minutes to work on this quiz.

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

Room for extra work

The device shown in Figure 1 has the voltage versus current relationship as shown in the plot in Figure 2. This device can be modeled with a voltage source in series with a resistance.

1. Find the model for the device, and draw it, labeling the numerical values of the components, and labeling terminals E and F.
2. Two identical versions of the device found in part a) are connected as shown in Figure 3. Connect terminal a for Device 1 to terminal E of the device model, and terminal b to terminal F. For Device 2, connect terminal c to terminal E of the device model, and terminal d to terminal F. Find *vX* in Figure 3.

 



Room for extra work

Solution for Quiz #2, February 23, 2016.

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