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

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

ECE 2201 – Quiz #1

February 7, 2023

1. This quiz is closed book, closed notes. You may use one 8.5” x 11” crib sheet, or its equivalent. You may use a calculator. You should **not** use a cell phone, tablet computer, or laptop computer, as you work on this quiz.

2. Show all work on these pages, and you may use both sides of each page. 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. You may separate the pages as you work.

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

4. Do not use red ink. Do not use red pencil.

5. You will have 25 minutes to work on this quiz.

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

Room for extra work

Use the circuit below to solve. The charge carriers in this circuit are electrons. The expressions for some of the voltages and currents are given.



1. Find the power absorbed by Device 2 at *t* = 2.7[s].
2. Which way are the charges moving through Device 2 at *t* = 2.7[s]? Your answer should take the form of “from E to G”, or “from G to E”. Briefly explain your answer, using complete sentences.
3. As the charges move through Device 2 at *t* = 2.7[s], do they gain energy or lose energy? Briefly explain your answer, using complete sentences.
4. The current *iD(t)* is periodic. What is the period for this function?



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