Peoplesoft ID Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ECE 2202 – Final Exam Problem 1

May 5, 2021

1. You may use one 8.5” x 11” crib sheet, or its equivalent. Do not communicate with anyone except Dr. Dave Shattuck or Dr. Xiaonan Shan while you are taking this exam.

2. Show all work necessary to complete the problem. Use additional sheets of paper as needed. A solution without the appropriate work shown will receive no credit. A solution which is not given in a reasonable order will lose credit. Include this page with your Peoplesoft ID Number, or include a different, separate page with your Peoplesoft ID Number. Do not write your name on this quiz. Failure to follow these rules will result in points being deducted.

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 45 minutes to work on this quiz, plus additional time to print, scan and email your work. Use a filename which is your Peoplesoft ID Number, followed by Problem1. Post your solution on Blackboard, in the same way you submit homework assignments. It must be submitted by 11:55am, or points will be deducted.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/50

Use the circuit below to solve. The power absorbed by *RL* is the largest possible, when *RL* = 8.73[Ohms]. Find the value of *X* that makes this statement valid. Include any appropriate units in your solution.

All resistances in the diagram have units of [Ohms].



Diagram, schematic

Description automatically generated

Diagram, schematic

Description automatically generated

Text, letter

Description automatically generated with medium confidence