ECSE-200 Electric Circuits 1

Quiz #2 (Jan. 25, 2019)

**LAST NAME** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **MCGILL ID#** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**FIRST NAME­­­­­­­­­**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**SIGNATURE**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* ***Show all your work***
* ***Clearly indicate your final answer***
* ***Only a standard calculator is accepted***

***Indicate your calculator model: \_\_\_\_\_\_\_\_\_\_\_***

* ***Provide symbol for both the SI multiplier and SI unit in your final answer***
* ***You have 45 minutes to complete this quiz***
* ***Plagiarism will have important consequences***

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**Question 1**. Consider the circuit shown. Answer the following two questions.

1. What is the value of the current supplied by the dependent current source if ? [2 pt]
2. How much power does the independent voltage source delivers if ? [2 pt]

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**Question 2.** Consider the circuit shown below with four terminals (*a*, *b*, *c*, and *d*). Answer the two questions below.

1. What is the equivalent resistance between terminal pair ? [2 pt]
2. What is the equivalent resistance between terminal pair ? [2 pt]

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**Question 3**. Consider the circuit shown below. Answer all questions.

A close up of a clock

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1. Write down the KCL equation at node labeled and solve to find I3. [1 pt]
2. Write down the KCL equation at node labeled , and solve to find I2. [1 pt]
3. Write down the KCL equation at node labeled , and solve to find I5. [1 pt]
4. Find V6 by solving the appropriate KVL equation. [1 pt]
5. Find V2 by solving the appropriate KVL equation. [1 pt]
6. Find V1 by solving the appropriate KVL equation. [1 pt]