**Name: Kyle Derby MacInnis**

**Lecture Section: L06**

**Lab Section: B11**

**Questions:**

**P1.12 –**

= **2C**

The Total Charge that passes through the circuit over time is **2 Coulombs**

**P1.27 –**

**a:**

Since the Current is coming in from the left and the reading is positive and the polarity of the Element is in parallel with the voltmeter, then the current is coming in with respect to the Passive Reference Configuration. This means that power is:

This means that since it is negative, **energy is** **being supplied by the element A.**

**b:**

Since the current is being read as negative, then the current is coming in from the right and exiting out the positive terminal. And since the polarity of the element is in parallel with the voltmeter the circuit is not is the Passive Reference Configuration. This means that power is:

This means that since the power is positive then **energy is being supplied by element A.**

**c:**

Since the current reading is negative then the direction if from right to left (negative – positive) and the polarity of the element is parallel with the Voltmeter then the circuit is not in the Passive Reference Configuration. This means that power is:

This means that **energy is being absorbed by Element A.**

**P1.36 –**

**(Hambley 5th Ed., Pg 57)**

Node ED:

Node BC:

Node ACDE:

**Elements A and B are in series** and as such they have the same current flowing through them.

**P1.41 –**

**KVL Loop B -**

**KVL Loop A -**

**KVL Loop C -**

Based on the diagram and KVL it can be shown that the voltages are equal in all loops and their values are shown as above.

**(Hambley 5th Ed., Pg59)**

+ 1 5V –

**C**

**A**

**B**

10V

**P1.47 –**

The elements that are in parallel in figure **P1.36** are: **None.**

The elements that are in parallel in figure **P1.42** are: **C and D.**

The elements that are in parallel in figure **P1.45** are: **None.**

**P1.58 –**

**%Decrease**

Originally the **Resistance is found to be 100 Ohms** when the voltage is 100V and the power is 100W. When the Voltage is decreased by 10% the **power was found to be 81W which is a 19% decrease in power.**