**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**PHY2049C, Quiz 4**

**A- Read all the quiz once, or twice, before beginning to write. Make sure to comprehend all questions and start with those you fell most confident.**

**B – Be clear and concise. There are no extra points for being verbose or writing extra.**

**C –Only use the white pages that I will provide. You have 50 minutes to answer the quiz.**

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**Problem 1**

Figure 1 shows an arrangement of 4 capacitors connected to an external circuit at points A and B. The capacitance C is 10 µF. The charge of the capacitor with capacitance C is 30 µC (a) What is the magnitude of the potential difference between A and B? between B and D?

A

C

4C

2C

D

B

6C

**Problem 2**

A white paper with black lines and symbols

Description automatically generated

What’s the power through the resistance 2in the circuit (the battery on the right is 15 V)

**Problem 3**

When steady-state is reached, what is the charge of the capacitor in the figure?

A paper with text and diagrams

Description automatically generated

**Problem 4**

The circuit in the figure has been connected for a long time. (a) what is the potential difference between in the capacitor? (b) If you disconnect the battery, how long until the capacitor discharges one tenth of its original charge?

A paper with text and diagrams

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