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

**PHY2049C, Quiz 5**

**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.**

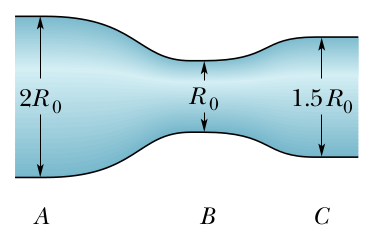
**C –Only use the white pages that I will provide. You have 60 minutes to answer the quiz.**

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**Problem 1**

In the figure, a wire that carries a current consists of three sections with different radii. Rank

the sections according to the following quantities, greatest first: (a) current, (b) magnitude of current density, and (c) magnitude of electric field.



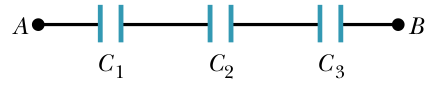
**Problem 2**

In the figure, C1 = 10.0 μF, C2 = 20.0 μF, and C3 = 25.0 μF. If no capacitor can withstand a potential difference of more than 100 V without failure and you apply a voltage that increases with time with the function VAB = 2\*t Volts with t in seconds which capacitor blows up first and why?

A diagram of a battery and two light bulbs

AI-generated content may be incorrect.

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**Problem 3**

The figure shows three 20.0 Ohm resistors. Find the equivalent resistance between points (a) A and B, (b) B and C

A diagram of a circuit

AI-generated content may be incorrect.