Wheatstone Bridge Experiment:
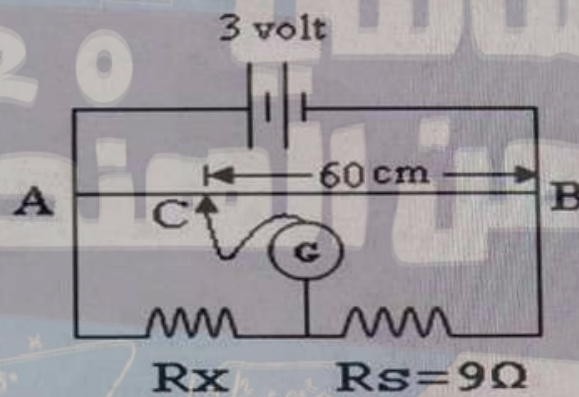
Wheatstone bridge consists of:

a) 4 resistive arms
b) 2 resistive arms
c) 6 resistive arms
d) 8 resistive arms
e) No resistive arms needed

Wheatstone Bridge Experiment:

In the circuit shown if the wire AB has a length of one meter, the galvanometer G reads zero at point C. along the wire, the value of unknown resistor Rx (ohm) is:

a) 6
b) 4
c) 1.5
d) 2
e) None.

Select one:

⦿ a. a

Wheatstone Bridge Experiment:

A galvanometer is used as a:

a) current source
b) voltage source
c) null detector
d) input impedance
e) None of the above

In the Wheatstone Bridge Experiment, when the galvanometer (G) reads zero at point the Balance point C, where L1 is 20 cm and the length of the wire of the bridge is 100 cm. Knowing that Rs = 15 W, then Rx (in Ohms) is

○ a. 7.5

○ b. 6

○ c. 35

○ d. 60

In the Wheatstone bridge experiment, the balance point is obtained when

- a. The potential difference across the galvanometer is zero
- b. The potential difference across the power supply is zero
- c. The potential difference across the unknown resistance is zero
- d. The current through the unknown resistance is zero

A non-Ohmic resistance R_1 is connected in series with an Ohmic resistance R_2 between points A and B in a conducting circuit. The current in R_2 is I_2. Then the potential difference between A and B:

○ a. Depends non-linearly on the current in R_1.

○ b. is non-linearly related to the current in R_2.

○ c. is equal to $I_2 (R_1 + R_2)$ for any value of I_2.

○ d. Depends linearly on the current in the equivalent resistance of R_1 and R_2 between A and B.

○ e. Depends on the current in R_1 non-linearly and linearly on I_2.

Question 7

Not yet answered

Marked out of 2.5

⚑ Flag question

An unknown resistance R_x and a known resistance R_s are connected in the Wheatstone Bridge, using a power supply with a certain emf and a wire of length 1.00 m, and the lengths L_1 and L_2 were determined. Using the same R_x in the circuit, which of the following would change the position of the balance point along the wire?

- ○ a. Using a wire with a different thickness.
- ○ b. Reversing the polarity of the power supply.
- ○ c. Changing the length of the wire or using a power supply with a different emf.
- ● d. Using a different R_s or a changing the length of the wire.
- ○ e. Using a wire made from a different Ohmic material.

Clear my choice

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In the Wheatstone Bridge experiment, suppose we found the balance point for a given R_s and the ratio $L2/L1$ is found. When the known resistance is doubled and the balance point is found again, then the new $L2/L1$ value:

○ a. is half the original value.

○ b. stays the same.

● c. is twice the original value.

○ d. cannot be known without measurement.

○ e. Not enough information is provided.

Clear my choice

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If two resistors R_1 and R_2 are connected in series between points A and B in a conducting circuit, and you're told R_1 is Ohmic but R_2 is not. The current in R_1 is I_1. The potential difference between A and B:

○ a. Depends linearly on the current in R_2.

○ b. is linearly related to the current in R_1.

● c. is equal to $I_1 (R_1+R_2)$ for any value of R_1 or R_2.

○ d. Depends linearly on the current in the equivalent resistance of R_1 and R_2 between A and B.

○ e. Depends on the current in R_2 non-linearly and linearly on I_1 .

Clear my choice

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Question 12

Not yet answered

Marked out of 4.00

⚐ Flag question

During the Wheatstone Bridge experiment, which of the following is true?

- ⦿ a. We vary both the known and unknown resistances.

- ○ b. We vary the known resistance and as a result the total current in the circuit changes.

- ○ c. We assume the currents in the wire and the unknown resistance are the same.

- ○ d. It is important to keep the current in the wire constant.

- ○ e. We vary the unknown resistance and as a result the current in the unknown resistance changes.

Clear my choice

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