Working formula:

- ✓ If wire 1 (X_1) is in left gap and wire 2 (X_2) is in right gap,then

$$\frac{X_1}{X_2} = \frac{l}{100 - l}$$

[$l = balanced\ length\ (in\ cm) measured\ from\ zero\ end$ (**point A**)]

- ✓ If wire 1 (X_1) is in right gap and wire 2 (X_2) is in left gap,then

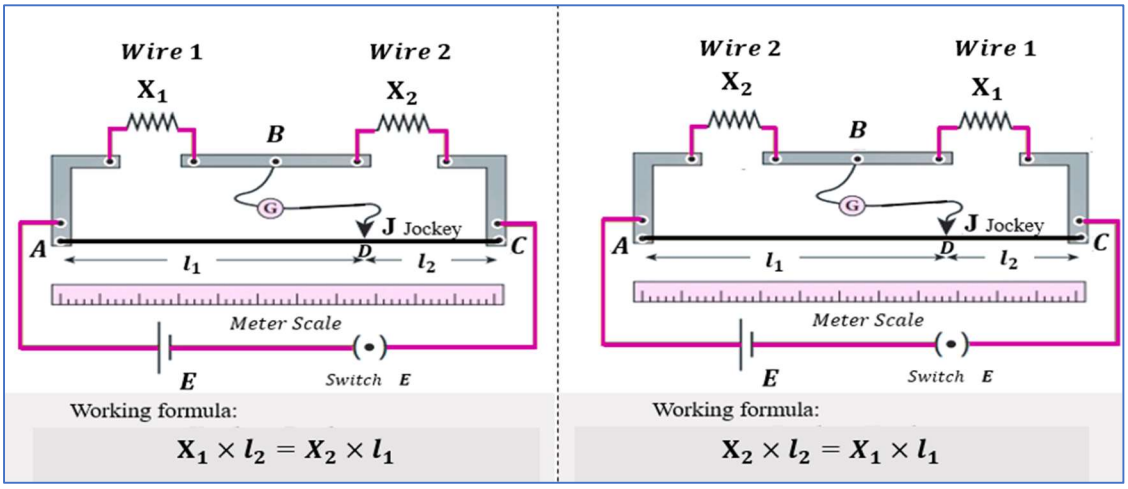
$$\frac{X_1}{X_2} = \frac{100 - l}{l}$$

[$l = balanced\ length\ (in\ cm) measured\ from\ zero\ end$ (**point A**)]

PROCEDURE:

To compare resistance of two wires:

1. Connect the cell, two wires (wire 1 of resistance X_1 **in left gap**) and (wire 2 of resistance X_2 **in right gap**), galvanometer, jockey as shown in figure (i).
2. Check the galvanometer deflection by placing the jockey at two ends of the bridge wire. If the deflection is opposite, the circuit connection is ok otherwise re-connect the circuit.
3. Slide the jockey from left to right over the bridge wire until the galvanometer shows null deflection. Note the balanced length (l), from the left end (zero end).
4. Repeat the step 3 three times.
5. Calculate the ratio of the resistance of two wires resistance $\left(\frac{X_1}{X_2}\right)$ by using appropriate formula.
6. Now, exchange the position of the wires and again repeat the steps 2, 3, 4, and 5.



OBSERVATIONS:

Least count of meter scale = … … … …

Length of given wires, $L_1 = \ldots\ldots\ldots\ m$

$L_2 = \ldots\ldots\ldots\ m$

Ratio of resistance of two wires:

$$\frac{X_1}{X_2} = \frac{L_1}{L_2} = \ldots\ldots\ldots\ldots$$ (standard value)