

Exercise 3 hints1...

- * free electrons are responsible for electric current.
- * 1 ampere= 1 coulomb/ sec
- * Cell is a device to flow electric charge.
- * $V = R \times i$ is Ohm's law
- * R, resistance ; conductor resists the flow of current
- * Specific resistance depends on type of material.
- * Series combination; resistors are joined by end to end
And in parallel their one end are joined to one point and
other end to other point.

Exercise 3 hints2...

- ** kirchoff's 1st law is also called charge conservation
- ** Kirchoff's (krc) second law is energy conservation.
- ** Wheatstone ,meter bridge are based on krc law
 - * For bridge balance $P \div Q = R \div S$
- ** Electric power ,. $P = v i$ watt
- ** 1 horse power (H.P.) = 746 watt
- * . * 1 kW- h = 3.6×10^6 Joule.

* emf voltage $E = E_0 \sin wt$

$$* . \quad i_0 = \sqrt{2} i_{rms}. \quad E_0 = \sqrt{2} E_{rms}$$

* Super conductor; at a low temp resistance=0

Electric energy uses: it is convenient, easy control,

eco-friendly, portable, no pollution

Exercise 3

Q. State the principle and working of meter bridge.

Q. State kirchoff's laws for an electric network.

Q. The resistance of wire is R . What will be it's new resistance if it is stretched to 2 times?

Ans . 4

Q. By joining three 2 ohm resistors how you obtain an effective resistance of 3ohm.

Q. A potential of 200V is applied across a resistance of 400 ohm in an electric iron . Calculate it's current.

Ans. 0.5A

- True/ False

1. the unit of resistivity is ohm. F ohm meter
2. Internal resistance is cell defect. T
3. Mechanical equivalent of heat is 4.18J. T
4. In a super conductor resistance is zero. T
5. Unit of energy consume is kw-h. T
6. A battery produces ac current. F dc
7. Wire in meter bridge is 1 meter long. T
8. A fuse wire is a devise having low melting point.T
9. A wire of resistivity π is stretched to doubled. It's new resistivity is 2π .F resistivity remains same. *Reference:*

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