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,resisatance ; 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.

** kirchoff's Ist law is also called charge conversation

** 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 $E = E_o \sin wt$

*. $i_o = \sqrt{2}\, I_{rms}$. $E_o = \sqrt{2}\, E_{rms}$

* Super conductor; at a low temp resistance=0

Electric energy uses: it is convenient, easy control, easily transportable, 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.