



Electricity Theory

1. Write down the SI unit of the followings
Current , charge, potential difference, resistance
2. Draw the symbols of the following
Closed key, electric bulb, ammeter, variable resistance
3. Define electric current. Is it scalar or vector quantity?
4. Name the instrument used to measure potential difference. How is it connected to the circuit? Why? What's happened if you are not doing so.
5. State Ohm's law. Also verify it.
6. What are the factors affecting resistance?
7. Derive the unit of specific resistance.
8. Why tungsten is not used to make connecting wire and copper is not used to make element?
9. Derive the expression when resistors are connected in parallel
10. State Joule's law of heating. Also derive its formula
11. Establish the relation between a) SI unit and commercial unit of energy
b) bigger unit and SI unit of energy
12. Fuse is a safety device. Justify.
13. A wire of length l , area of cross section of A , resistance is $4\ \text{ohm}$. it is stretched to double.
Find the new resistance.
14. A wire of resistivity r is folded to half. Find the new resistivity.
15. A bulb of $100\ \text{W}$ is glowing and a bulb of $100\ \text{W}$ is not glowing. Which bulb has greater resistance? Why?
16. What are the problems we have if domestic circuits are connected in series. State one advantage of it too.
17. $P=I^2R$ $P=V^2/R$ which statement is correct and how?
18. Define $1\ \text{V}$
19. What is the ratio of resultant resistance of series and parallel if each is having $3\ \text{ohm}$ resistance.
20. What is the direction of conventional current?

21. How many electrons are present in one coulomb of charge?
22. Give example of ohmic and non ohmic materials
23. What is one unit of energy?
24. Prove that $H = V \cdot Q$
25. Differentiate between resistance and resistivity

