INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS

CH: 12 ELECTRICITY

Name: _____ Date:_____ Class: X Sec: ___

1. Why is resistance less when resistors are connected in parallel?
2. Why is the resistance more in series combination?
3. What is the SI unit of electric potential?
4. What are the special features of a heating wire?
5. What is the value of charge on an electron in coulomb?
6. Which one has more resistance 100W bulb or a 60W bulb?
7. Write the expression for the heat energy produced in a wire of resistance R and carrying current I.
8. What happens to the resistance of a wire if it is made thinner?
9. Which material is used to make resistance coil of electric heater?
10. Why does an electric bulb become dim when an electric heater in parallel circuit is made on? Explain. Why does the dimness increase after sometime?
11. A metallic wire of resistance R is cut into ten parts of equal length. Two pieces each are joined in series and then five such combinations are joined in parallel. What will be thee effective resistance in such case?
12. A wire of length L and resistance R is stretched so that its length is doubled and the area of cross – section is halved. How will its : (a) resistance change (b) resistivity change?
13. Two wires of equal length, one of copper and the other of manganin have the same thickness. Which one can be used for (i) electrical transmission lines (ii) electrical heating devices? Why?
14. A current of 0.5 A is drawn by a filament of an electric bulb for 10 min. Find the amount of electric charge that flows through the circuit.
15. How much work is done in moving a charge of 2C across two points having a potential difference 12V.
16. The potential difference between terminals of an electric iron is 240 V and the current is 5A.what is the resistance of the electric iron?
17. Figure (a), (b) and (c) show three cylindrical copper conductors along with their face areas and length. Which geometry will have highest resistance?
18. A piece of wire of resistance 20Ω is drawn out so that its length is increased to twice its original length. Calculate the resistance of the wire in the new situation.
19. A 4Ω resistance wire is doubled on it. Calculate the resistance of the wire.
20. Resistance of a metal wire of length 1m is 26Ω at 20^0c. if the diameter of the wire is 0.3mm what will be the resistivity of the metal at that temperature?
21. A wire of resistance 5ohm is bent in the form of a circle. What is the effective resistance between the two points at ends of any diameter of the circle?
22. An electric iron has a rating of 750W, 220V. Calculate (i) current passing through it and (ii) its resistance, when in use.
23. An electric bulb is rated as 50W, 220V. Calculate the energy consumed by the bulb in 20 minutes. Express your answer in commercial unit of electrical energy.
24. Which has a higher resistance: 50W lamp bulb or a 25W lamp bulb and how many times?
25. Two electric bulbs of 50W and 100W are given. Which one will be brighter when they are connected (i) in series and (ii) in parallel?

26. Define current. Give its SI unit. (2019 CBSE) 1
27. Mention the condition under which a current can flow in a conductor. (2019 CBSE) 1
28. (a) Define electric power. An electrical device of resistance R is connected across a source of voltage V and draws a current I. Derive an expression for power in terms of current and resistance. 5
    (b) Two electric bulbs rated 100W; 220V and 60W; 200V are connected in parallel to an electric main of 220V. Find the current drawn by the bulbs from the mains. (2019 CBSE)
29. How will you infer with the help of an experiment that the same current flows through every part of the circuit containing three resistors R_1, R_2, and R_3 in series connected to a battery of V volts? (2019 CBSE) 3