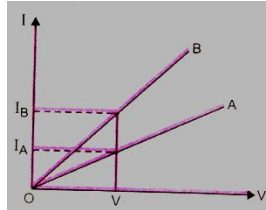
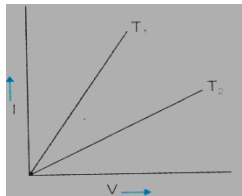


PHYSICS SET A

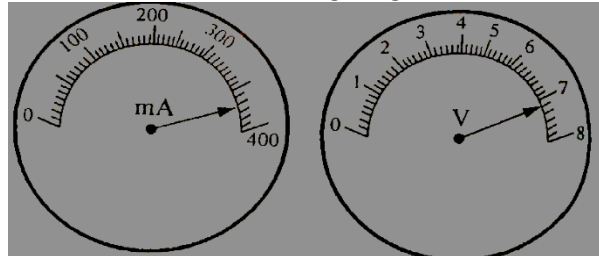
1. Define 1V?
2. If length of a wire is doubled what happens to its resistance?
3. Name a metal which offers higher resistance to the passage of electricity than Copper?
4. Graph between electric current and potential difference across two conductors A and B are as shown in the figure given below; Which of the two conductors has more resistance?



5. V-I graph for metallic wire at two different temperatures T_1 and T_2 are shown in the figure. Which of the two temperature is higher and why ?

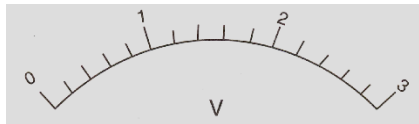


6. Calculate the resistance of an aluminium wire of length 10km and diameter 2.0mm if the resistivity of wire is 2.7×10^{-8} ohm meter.
7. Readings of voltmeter and ammeter are shown in the figure given below:



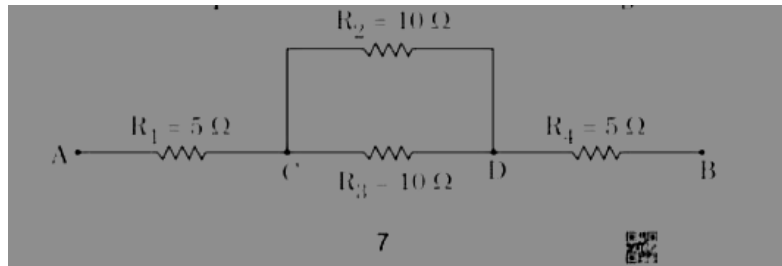
What will be the resistance of the conductor in which these two devices are connected?

8. The least count of the given voltmeter shown below is:



9. Why is the tungsten metal more coiled in the bulb and not installed in a straight form?
10. How many 176Ω resistors (in parallel) are required to carry 5A in 220v line?
11. 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?
12. Two resistors when connected in parallel give the resultant value of 2Ω ; when connected in series the value becomes 9Ω . Calculate the value of each resistance?
13. Show how would you join the three resistors, each of resistance 9Ω so that the equivalent resistance of the combination is : i) 13.5Ω ii) 6Ω ?
14. Write the function of voltmeter in an electric circuit?

15. In an electric circuit two resistors of 12Ω each are joined in parallel to a $6V$ battery find the current drawn from the battery?
16. Find the resistance of two copper rods X and Y of lengths 30cm and 10cm respectively and having radii 2cm and 1cm respectively.
17. Write the mathematical expression for joules law of heating?
18. Three resistors R_1 , R_2 and R_3 are connected in parallel and the combination is connected to a battery, an ammeter, a voltmeter and a key. Draw a suitable circuit diagram to show the arrangement of these circuit components along with the direction of current flowing. **[CBSE 2023] {3 Marks}**
Calculate the equivalent resistance of the following network:



19. Two bulbs rated $100W$; $220V$ and $60W$; $220V$ are connected in parallel to an electric mains of $220V$. Find the current drawn by the bulbs from the mains.
20. V-I graph for two conducting wire A and B are as shown. If both wires are of the same length and same diameter, which of the two is made of a material of high resistivity? Give reasons to justify your answer.

