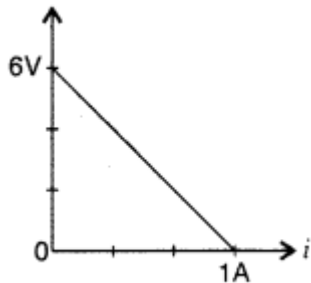


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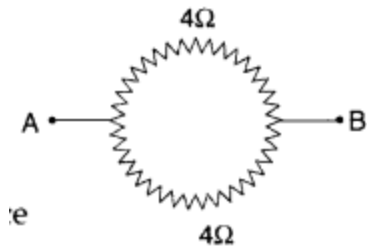
CLASS:XII SUBJECT: PHYSICS

LESSON :3 CURRENT ELECTRICITY

1.The plot of the variation of potential difference across a combination of three identical cells in series, versus current is as shown in the figure. What is the emf of each cell? (Delhi 2008)



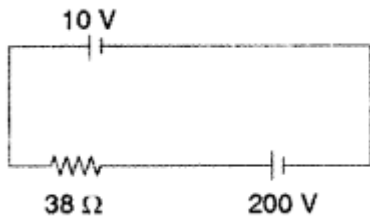
2.A wire of resistance $8R$ is bent in the form of a circle. What is the effective resistance between the ends of a diameter $2AB$? (Delhi 2008)



3.Two conducting wires X and Y of same diameter across a battery. If the number density of electro in X is twice that in Y, find the ratio of drift velocity of electrons in the two wires.

4. A 10 v battery of negligible internal resistance is connected across a 200 V battery and a resistance of 38Ω as shown in the figure. Find the value of the current

in circuit. (Delhi 2013)



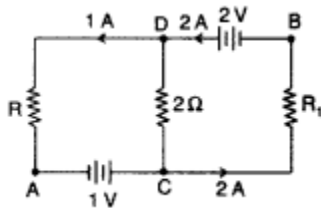
5. The emf of a cell is always greater than its terminal voltage. Why? Give reason.

6. How does one explain increase in resistivity of a metal with increase of temperature?

7. Nichrome and copper wires of same length and same radius are connected in series. Current I is passed through them. Which wire gets heated up more? Justify your answer.

8. A wire of $15\ \Omega$ resistance is gradually stretched to double its original length. It is then cut into two equal parts. These parts are then connected in parallel across a 3.0 volt battery. Find the current drawn from the battery.

9. In the given circuit, assuming point A to be at zero potential, use Kirchhoff's rules to determine the potential A at point B. (All India 2011)



10. A cell of emf 'E' and internal resistance V is connected across a variable resistor 'R'. Plot a graph showing variation of terminal voltage 'V' of the cell versus the current 'I'. Using the plot, show how the emf of the cell and its internal resistance can be determined.