SAINIK SCHOOL GOPALGANJ
SUB – SCIENCE
CLASS –X

ASSIGNMENT- 3

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CHAPTER- ELECTRICITY

General Instruction:

1. Answerr all questions of **NCERT EXERCISE** of this chapter.
2. Solve these additional questions in your copy.

SHORT ANSWER TYPE QUESTION

1. Name the charge responsible for the conduction in a conductor?

2 What does an electric circuit mean?

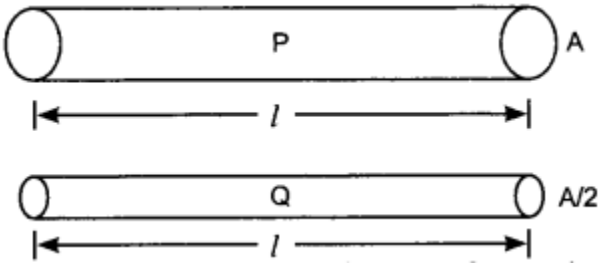
3. When two ends of a metallic wire are connected across the terminals of a cell, some potential difference is set up between its ends. In which direction, electrons are flowing through the conductors?

4.What is meant by saying that the potential difference between two points is 1 V?

5.On what factors does the resistance of a conductor depend?

LONG ANSWER TYPE QUESTION

6. Out of the two wires P and Q shown below, which one has greater resistance? Justify it.



7.A given length of a wire is doubled on itself and this process is repeated once again. By what factor does the resistance of the wire change?

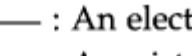
8.Draw a schematic diagram of a circuit consisting of a battery of three cells of 2 V each, a 5 Ω resistor, an 8 Ω resistor, and a 12 Ω resistor, and a plug key, all connected in series.

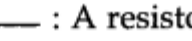
9. Resistance of an incandescent filament of a lamp is comparatively much more than that when it is at room temperature. Why?

10.Why does the cord of an electric heater not glow while the heating element does?

Multiple Choice Questions

1.Which of the following is not correctly matched?

(a)  : An electric cell

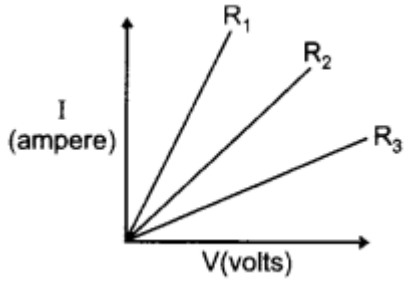
(b)  : A resistor

(c)  : Open plug key

2.In an electrical circuit two resistors of 2 Ω and 4 Ω respectively are connected in series to a 6 V battery. The heat dissipated by the 4 Ω resistor in 5 s will be

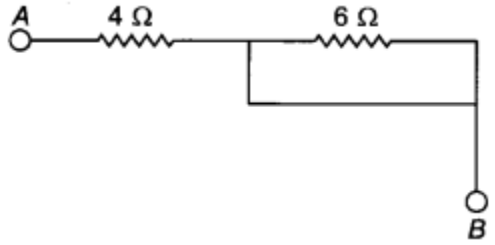
(a) 5 J
(b) 10 J
(c) 20 J
(d) 30 J

3.A student carries out an experiment and plots the V-I graph of three samples of nichrome wire with resistances R_1 R_2 and R_3 respectively. Which of the following is True?



(a) $R_1 = R_2 = R_3$
(b) $R_1 > R_2 > R_3$
(c) $R_3 > R_2 > R_1$
(d) $R_2 > R_3 > R_1$

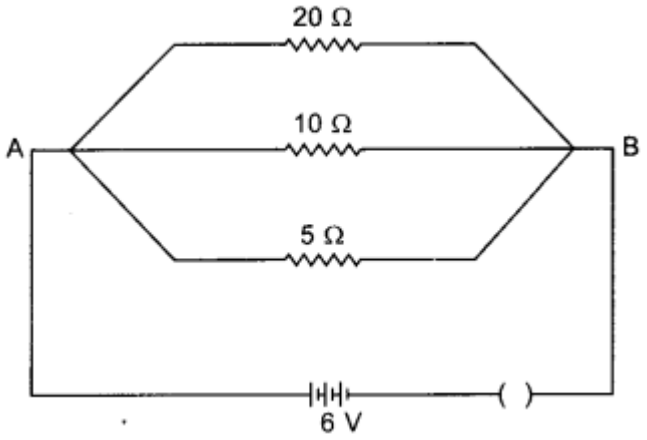
4.The effective resistance between A and B is



(a) 4Ω

(b) 6Ω
(c) May be 10 Ω
(d) Must be 10 Ω

5.Calculate the current flows through the 10 Ω resistor in the following circuit.



(a) 1.2 A
(b) 0.6 A
(c) 0.2 A
(d) 2.0 A

Fill in the Blanks

1. The SI unit of current is …… .
2. According to …… Law, the potential difference across the ends of a resistor is directly proportional to the …… through it, provided its--------- remains constant.
3. The resistance of a conductor depends directly on its …… , inversely on its …… and also on the …… of the conductor.
4. The SI unit of resistivity is …… .
5. If the potential difference across the ends of a conductor is doubled, the current flowing through it, gets …… .

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