

BRAIN INTERNATIONAL SCHOOL

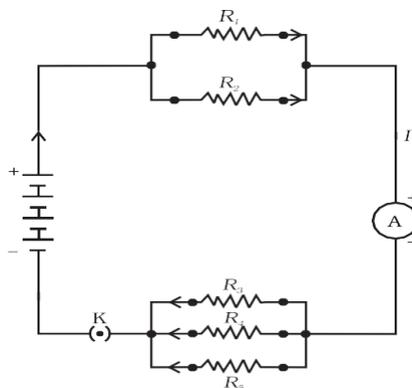
PHYSICS ASSIGNMENT

CLASS X

April'21

CH: 12 ELECTRICITY

1. How much work is done in moving a charge of 2 C across two points having a potential difference 12 V?
2. Calculate the amount of work done to carry 4C from a point at 100 V to a point at 120 volt?
3. How many electrons are flowing per second past a point in a circuit in which there is a current of 4A?
4. Resistance of a given wire of length ' l ' is 3Ω . The wire is stretched uniformly such that its length becomes $2l$. Find the new resistance of the stretched wire.
5. Resistance of a given wire of length ' l ' is 4Ω . The wire is stretched uniformly such that its length becomes $3l$. Find the new resistance of the stretched wire.
6. A 6Ω resistance wire is doubled up by folding. Calculate the new resistance of the wire.
7. Two wires of the same metal have the same area of cross section but their lengths in the ratio of 3: 1. What should be the ratio of current flowing through them respectively, when the same potential difference is applied across each of their length?
8. If in Fig. $R_1 = 10\Omega$, $R_2 = 40\Omega$, $R_3 = 30\Omega$, $R_4 = 20\Omega$, $R_5 = 60\Omega$, and a 12 V battery is connected to the arrangement. Calculate (a)The total resistance in the circuit, and (b) the total current flowing in the circuit.



9. A hot plate of an electric oven connected to a 220 V line has two resistance coils A and B, each of 24Ω resistance, which may be used separately, in series, or in parallel. What are the currents in the three cases?
10. A copper wire has diameter 0.5 mm and resistivity of $1.6 \times 10^{-8}\Omega\text{ m}$. What will be the length of this wire to make its resistance 10Ω ? How much does the resistance change if the diameter is doubled?
11. A battery of 9 V is connected in series with resistors of 0.2Ω , 0.3Ω , 0.4Ω , 0.5Ω and 12Ω , respectively. How much current would flow through the 12Ω resistor?
12. Show how you would connect three resistors, each of resistance 6Ω , so that the combination has a resistance of (i) 9Ω , (ii) 4Ω .

