

Home Assignment

Class- VII

1. Can we use the same fuse in a geyser and a television set? Explain.
2. Name two electric devices for each where (i) heating effect of current is used and (ii) magnetic effect of current is used.
3. Why do we cover plug pin holes which are within the reach of children with cello tape or a plastic cover when not in use?
4. Boojho made an electromagnet by winding 50 turns of wire over an iron screw. Paheli also made an electromagnet by winding 100 turns over a similar iron screw. Which electro magnet will attract more pins? Give reason

Class- VIII

1. Why is a layer of zinc coated over iron?
2. Will the solution of sugar in distilled water conduct electricity?
3. Name the effect of current responsible for the glow of the bulb in an electric circuit.
4. You are provided with a magnetic compass, an empty match box, a battery of two cells and connecting wires. Using these objects how will you make a tester for testing an electric circuit? Draw the necessary circuit diagram and explain.

Class- IX

1. The velocity of a body moving in a straight line is increased by applying a constant force F , for some distance in the direction of the motion. Prove that the increase in the kinetic energy of the body is equal to the work done by the force on the body.
2. Is it possible that an object is in the state of accelerated motion due to external force acting on it, but no work is being done by the force. Explain it with an example.
3. A ball is dropped from a height of 10 m. If the energy of the ball reduces by 40% after striking the ground, how much high can the ball bounce back? ($g = 10 \text{ m s}^{-2}$)
4. If an electric iron of 1200 W is used for 30 minutes every day, find electric energy consumed in the month of April.

Class- X

1. State Ohm's law? How can it be verified experimentally? Does it hold good under all conditions? Comment.
2. What is electrical resistivity of a material? What is its unit? Describe an experiment to study the factors on which the resistance of conducting wire depends.
3. How will you infer with the help of an experiment that the same current flows through every part of the circuit containing three resistances in series connected to a battery?
4. How will you conclude that the same potential difference (voltage) exists across three resistors connected in a parallel arrangement to a battery?