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Electric Current and Its Effects

ORAL QUESTIONS

A. Answer these questions orally.

1. Is electricity a form of energy?
2. Name the device which helps in breaking or completing a circuit.
3. Will a bulb glow if its filament breaks?
4. Who observed the magnetic effect of current for the first time?
5. Name the three important parts of an electric bell.
6. What is the other name given to poor conductors of electricity?
7. Name the material used to make the filaments of electric heaters and electric toasters.

B. Fill in the blanks to explain the working of an electric bell using words from the word box.

electron magnet, switch, sound, released, circuit, magnet, gong, current, armature, ringing, hammer

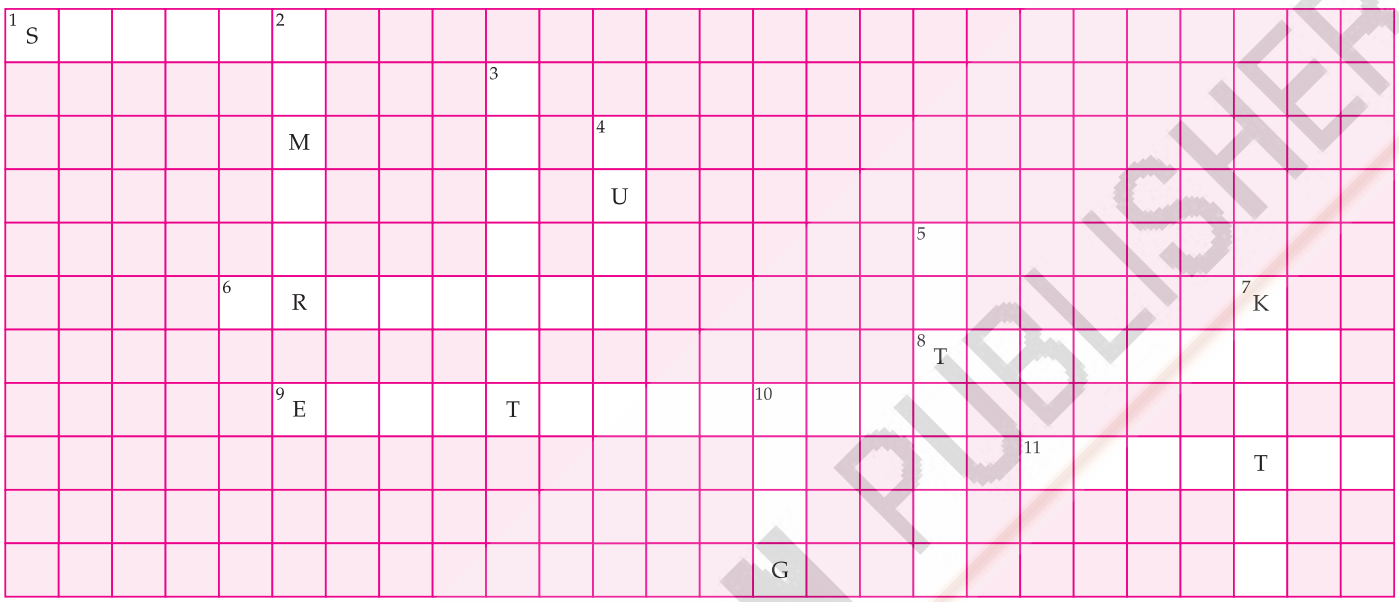
When the _____ is pushed 'on', the _____ flows through the coil. The coil becomes an _____. It attracts the _____. The _____ connected to the end of armature, with the help of metal piece moves to hit the _____ and cause a _____, but also brakes the _____. The coil is no longer a _____. The armature moves back. The circuit is made again and the bell goes on _____ until the push button is _____.

PUZZLES/QUIZ

C. Complete the word-puzzle with the help of clues given.

1. A device which helps in breaking or completing a circuit.
2. A small metallic sphere in an electric bell.
3. A closed path for the current to flow.
4. A safety device for electrical circuits and appliances.
5. Two or more cells combined together to provide more electric current.

6. A soft iron strip in an electric bell.
7. A device which utilises the heating effect of current.
8. The filament of a bulb is made of this.
9. A temporary magnet.
10. A bigger metallic sphere to which hammer strikes in an electric bell.
11. Another device which utilises the heating effect of current.



CLASS TEST

D. MCQ–Tick (3) the correct option.

1. Which of these is not a good conductor of electricity?
   (a) Drywood ☐ (b) Silver ☐
   (c) Aluminium ☐ (d) Copper ☐
2. Which of these is a good conductor of electricity?
   (a) Paper ☐ (b) Plastic ☐
   (c) Bakelite ☐ (d) Copper ☐
3. In an electric cell
   (a) Electrical energy changes into chemical energy ☐
   (b) Chemical energy changes into electrical energy ☐
   (c) Both (a) and (b) ☐
   (d) None of these ☐

4. The glowing part of a bulb is called a

(a) Fuse ☐ (b) Switch ☐

(c) Filament ☐ (d) Battery ☐

5. A switch helps in

(a) Making a circuit ☐ (b) Breaking a circuit ☐

(c) Both (a) and (b) ☐ (d) None of these ☐

6. Electromagnets are used

(a) To separate iron scrap from junk in industries ☐

(b) In the receiver of telephones ☐

(c) In electric motors ☐

(d) All of these ☐

7. The filament of an electric bulb is made of

(a) Tungsten ☐ (b) Plastic ☐

(c) Glass ☐ (d) Silver ☐

8. Which of the following devices does not utilise the heating effect of current?

(a) Electric iron ☐

(b) Electric kettle ☐

(c) Geyser ☐

(d) Mobile phone ☐

E. Very short answer questions.

1. Name a source of electrical energy.

_____

2. What is the glowing part of a bulb called?

_____

3. When is the bulb said to be 'fused'?

_____

4. What are electrical components and devices represented by in a circuit diagram?

_____

F. Short answer questions.

1. Draw a circuit diagram showing a bulb, a closed switch and a battery of four cells. Also show the direction of current flowing through the circuit.

2. On what factors does the amount of heat produced by the current depend upon?

3. What do you understand by the 'heating effect of current'?

4. How is the 'coil' of a heating device made?

5. What is an electric fuse?

6. What do you understand by magnetic effect of current?

7. What are the factors on which the strength of an electromagnent depends upon?

G. Long answer questions.

1. Explain the construction and working of an electric bell.

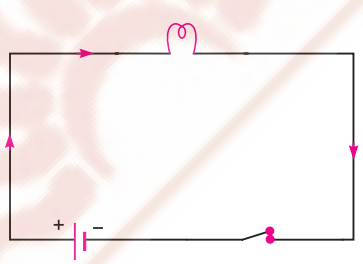
2. State the various uses of electromagnets.

3. Explain the working of an electric fuse.

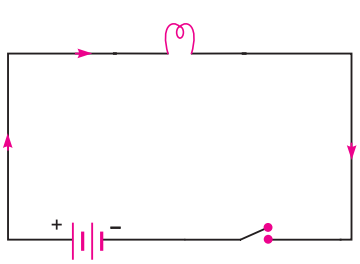
HOME ASSIGNMENT

H. Think and answer.

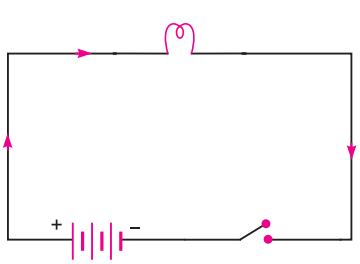
1. Seema, Ruchi and Sonia made three circuits (I, II and III) respectively. These are shown below.



Circuit I



Circuit II



Circuit III

They passed electric current through each circuit for two minutes. After sometimes, they found that the bulb in circuit (III) felt hottest on touching. What could be the reason?

2. Manav made an electric circuit and placed a magnetic compass near it.
   (a) On switching on, the needle of the magnetic compass showed a deflection. Why?

   (b) On switching off, the needle came back to its normal North-South direction. Why?

WORKSHEET

I. Give reasons for the following.

1. To represent a cell, two parallel vertical lines are to be drawn of which one should be distinctly bigger than the other.

2. An electric bulb gives out light when connected in a circuit and switched on.

3. Tungsten and nichrome are used to make filaments of an electric bulb and other heating devices.