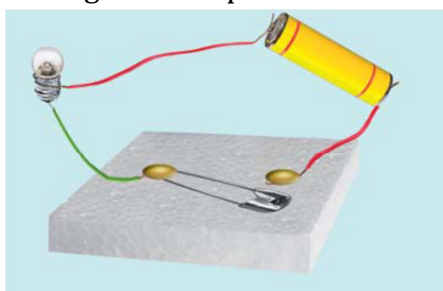


Class-VII (CHAPTER-14) Electric Current and its Effects

Questions

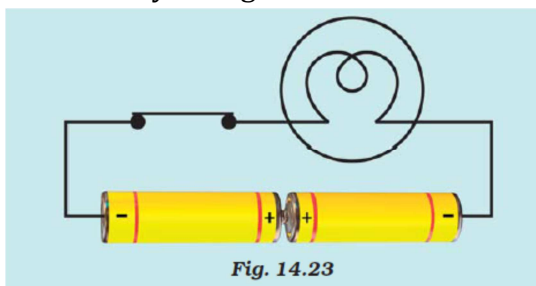
1. Draw in your notebook the symbols to represent the following components of electrical circuits. Connecting wires, switch in the OFF position, bulb, cell, switch in ON position and battery.
2. Draw the circuit diagram to represent the circuit shown in Fig. 14.3.



3. Fig. 14.4. Shows four cells fixed on a board. Draw lines to indicate how you will connect their terminals with wires to make a battery of four cells.



4. The bulb in the circuit shown in Fig. 14.5 does not glow. Can you indicate the problem? Make necessary changes in the circuit to make the bulb glow.



5. Name any two effects of electric current.
6. When the current is switched on through a wire, a compass needle kept nearby gets deflected from its north-south position. Explain.
7. Will the compass needle show the deflection when the switch in the circuit shown by Fig. 14.24 is closed?

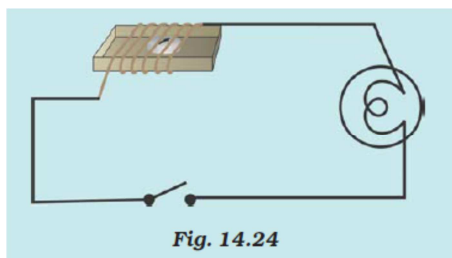


Fig. 14.24

8. Fill in the blanks
- (a) Longer line in the symbol represents its ----- terminal.
 - (b) The combination of two or more cell is called -----.
 - (c) When a current is switched ON in a room heater, it -----.
 - (d) The safety device based on the heating effect of electric current is called -----.
9. Mark 'T' if the statement is true and 'F' if it is false:
- (a) To make a battery of two cells, the negative terminal of one cell is connected to the negative terminal of other cell. (T/F)
 - (b) When the current through the fuse exceeds a certain limit, the fuse wire melts and breaks. (T/F)
 - (c) An electromagnet does not attract a piece of iron. (T/F)
 - (d) An electric bell has an electromagnet. (T/F)
10. Do you think an electromagnet can be used for separating plastic bags from a garbage heap? Explain.
11. An electrician is carrying out some repairs in your house. He wants to replace a fuse by a piece of wire. Would you agree? Give reasons for your response.
12. Zubeda made an electric circuit using a cell holder shown in Fig. 14.4, a switch and a bulb. When she put the switch in the ON position, the bulb did not glow. Help Zubeda in identifying the possible defects in the circuit.
13. In the circuit shown in Fig. 14.25

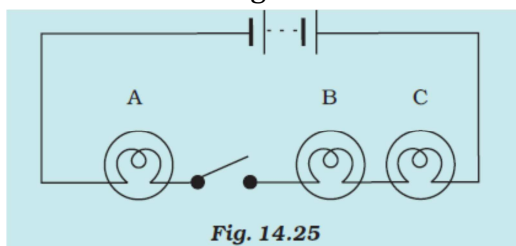








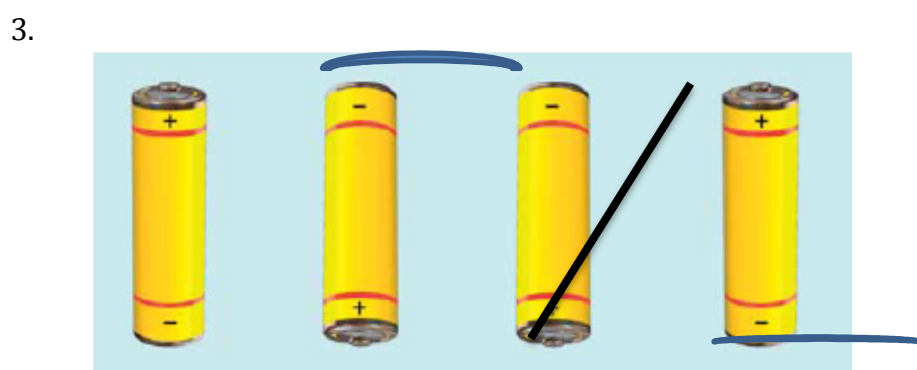
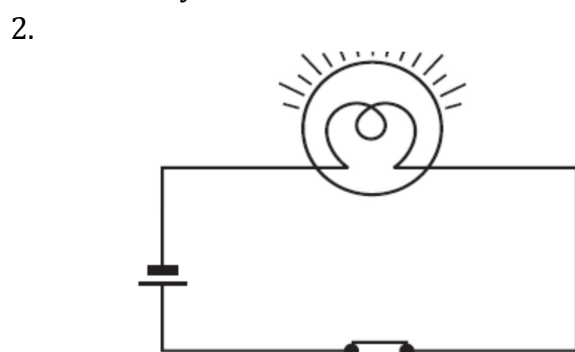
Fig. 14.25

- (i) Would any of bulb will glow when the switch is in the 'OF' position?
- (ii) What will be the order in which bulb A, B, C will glow when switch is moved to the 'ON' position?

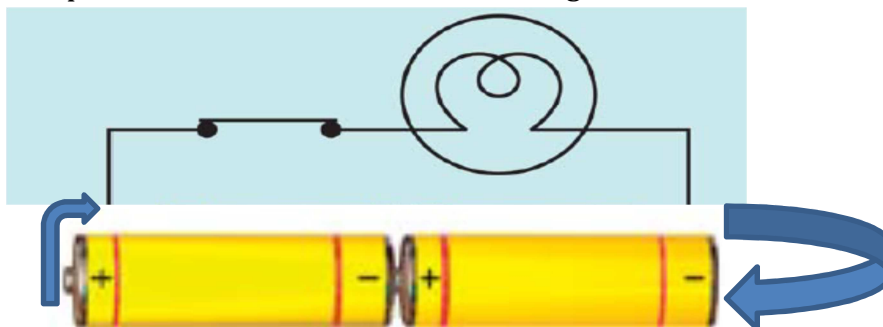
Class-VII (CHAPTER-14) Electric Current and its Effects

Answers

1. Connecting wires 
Switch in the OFF position 
Bulb 
Cell 
Switch in ON position 
Battery 



4. The problem in circuit is that both the negative terminals are connected to the bulb.



5. (i) Heating effect
(ii) Magnetic effect
6. When the current flows through a circuit magnetic field is produced around it. The magnetic fields cause deflection the needle of magnetic compass. This effect is called magnetic effect of electric current.
7. No, because magnetic field is not produced in the circuit until current is flowing through the circuit.
8. Fill in the blanks
(a) Longer line in the symbol represents its **positive** terminal.
(b) The combination of two or more cell is called **battery**.
(c) When a current is switched ON in a room heater, it **produces heat**.
(d) The safety device based on the heating effect of electric current is called **fuse**.
9. (a) F
(b) T
(c) T
(d) T
10. No, electromagnets attract only the magnetic material like iron. So, it cannot be used for separating plastic from garbage.
11. Replacing the fuse with metal piece should be dangerous as fuse wire have very low melting point. In case of metal piece the melting point will be high and circuit will be not prevented in case of overloading or overheating.
12. The possible reason for not glowing of bulb is:
(i) Connecting wire is loose.
(ii) The cells are used up.
(ii) Bulb may be fused.
13. (a) No, as the circuit is not complete.
(b) All the three bulbs glow together if switch is in ON position.
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