परमाणु ऊर्जा शिक्षण संस्था
Atomic Energy Education Society
उत्तर कुंजी / Answer Key (2025-26)

कक्षा/Class: VIII **शिषर्/Subject: Science** **माह/ Month: August**

CHAPTER 4: Electricity- Magnetic and heating effects

I. Choose the correct answer:

1. d) Galvanometer
2. c) Mobile phones and laptops
3. c) Zinc and Copper
4. c) Amount of current
5. b) Loudspeaker
6. b) Zinc casing
7. d) Lead-tin alloy
8. d) Both a and c
9. c) Lead-acid battery
10. b) Negative to positive terminal
11. (c) A is true, but R is false
12. (a) Both A and R are true, but R is the correct explanation of A
13. (a) Both A and R are true, but R is the correct explanation of A
14. (c) A is true, but R is false
15. (a) Increases
16. (c) Iron
17. (c) Lose its magnetism
18. (b) Material of core

IV. Short answer type questions -I

19.

dry cell	Rechargeable battery
A dry cell is non-rechargeable (chemical reaction is irreversible),	Rechargeable battery (like lead-acid) can be used multiple times as its reaction is reversible.

20. The electrolyte helps in the movement of ions and completes the circuit by enabling the flow of electric current via chemical reactions.
21. When electric current flows through a wire, it creates a circular magnetic field around the wire (as discovered by Hans Christian Oersted). The magnetic field interacts with the magnetic field of the compass needle The compass needle is a tiny magnet that responds to nearby magnetic fields. As a result, the needle experiences a force and changes direction (deflects) from pointing north.
22. They are lightweight, rechargeable, and have high energy density, making them ideal for phones and laptops.
23. The heating effect of an electric current depends on the material, length, and thickness (cross-sectional area) of the conductor.
24. Don’t touch with wet hands.

Avoid overloading sockets.

Use proper insulation and fuse.

Switch off when not in use.

V. Short answer type questions- II

25. Dry cells are one of the most widely used electric cells today. They are called ‘dry’ because the electrolyte is not a liquid but a thick moist paste. It consists of a zinc container which acts as a negative terminal and a carbon rod at the centre covered with metal cap that acts as the positive terminal. The carbon rod is surrounded by the paste-like electrolyte. The dry cell is a single use cell, meaning once it is used up, it has to be disposed of. For several applications, rechargeable batteries are increasingly being used now.

26.

Feature	Dry Cell	Voltaic Cell
Electrodes	Zinc (–), Carbon (+)	Zinc (–), Copper (+)
Electrolyte	Zinc (–), Copper (+)	Weak acid or salt solution
Reusability	Non-rechargeable	Can be rechargeable

27. Current-carrying coil produces a magnetic field. Ends of the coil behave like north and south poles

Applications:

Electric bell

Crane to lift heavy iron materials

28. Insert copper and iron nails as electrodes into a lemon.

Lemon juice acts as electrolyte.

A chemical reaction occurs, generating electricity.

Connect electrodes to a small LED — it lights up, showing current flow.