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

कक्षा /Class: VII शिषर् /Subject: Science माह/ Month: July अंक/Marks: 40

दिया गया पाठ्यक्रम/Portion covered: 3. Electricity - Circuits and their components worksheet

I. Choose the correct answer: (10 x 1=10)

1. b) Bhakra Nangal Dam
2. c) Electric cell
3. d) Tungsten
4. d) International Science Council
5. b) Switch
6. a) Alternating Current
7. c) Sutlej
8. a) Graphite
9. b) Aluminium wires
10. a) A switch is the source of electric current in a circuit.

II. Choose the correct answer from options given below for the statements. (4x1=4)

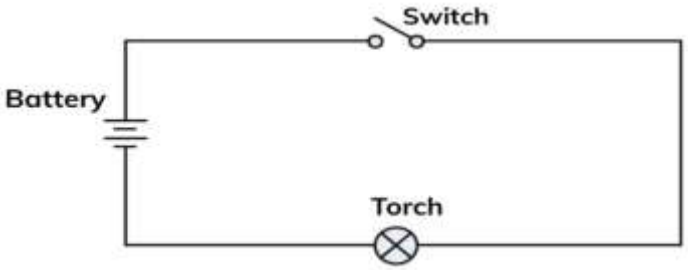
11. a) Both A and R are true and R is the correct explanation of A
12. c) A is true, but R is false
13. b) Both A and R are true, but R is not the correct explanation of A
14. c) A is true, but R is false

III. Read the circuit and answer the question carefully. (4x1=4)

15. d) Neither L1 nor L2
16. d) Neither L1 nor L2
17. c) Both L1 and L2
18. d) Neither L1 nor L2

IV. Short answer type questions -I (5x2=10)

19.



20. Electric wires are covered with plastic or rubber because these materials are insulators. They prevent electric current from escaping the wire and also protect people from getting electric shock. And the insulation prevents the wires from touching each other and causing short circuit.

21. The torch glows when the switch is in ‘ON’ position because it completes the electric circuit, allowing the current to flow through the lamp. When the switch is in ‘OFF’ position, the circuit is open and current cannot flow, so the lamp does not glow.

22. No, the other lamp will not glow if the filament of one lamp is broken.

If the filament of one lamp breaks , it creates a gap in the circuit. Even though the other lamp might be perfect, it won’t glow because no electricity is reaching the bulb due to the broken connection.

23. An electric circuit is a closed, continuous path that allows electric current to flow. When one terminal of the lamp is connected to one terminal of the electric cell and the other terminal of the lamp to the other terminal of the cell the lamp will glow. This setup forms an electrical circuit, which provides a complete path for electric current to flow through the lamp.

V. Short answer type questions- II **(4x3=12)**

24. Possible reasons:

i) Broken filament in the lamp
ii) Loose connection in the circuit
iii) Dead battery
iv) Faulty switch

To find out why the lamp did nit glow, one should :

i) Check the lamp for broken filament
ii) Ensure all connections are secure
iii) Test the battery using simple tester to ensure whether it us working or not.
iv) Verify that the switch is in ‘ON’ position.

25.

CONDUCTORS	INSULATORS
Materials through which electric current can flow easily are called conductors.	Materials through which electric current cannot pass easily are called conductors
It is also called as good conductor of electricity	It is also called as poor conductor of electricity.
Eg, Silver, Gold, Copper	Eg, Rubber, Plastic, Wood

26. Yes, there is difference between electricity from an electric cell and that from a wall socket.

Electricity from batteries usually powers small devices and is of a type called Direct Current (DC). Eg. Batteries, Solar cells

In contrast, the electricity from power plants that come to the wall socket is known as Alternating Current (AC) and can run larger appliances. They are used to power house hold appliances, industrial equipments and in power grid.

27. Incandescent bulbs are found in many old torch lights. It contains a thin wire inside the glass bulb of the lamp and it gets hot and produce light. This glowing thin wire is called the filament of the lamp. It is made up of tungsten. If the filament is broken, the lamp will not glow. The filament is attached to two thicker wires that support it. One thick wire is connected to the metal case at the lamp’s base, while the other is connected to the metal tip at the centre of the base. These form the two terminals of the lamp, and are fixed in a way that they do not touch each other. The two thick wires are separated by an insulator.