

CHAPTER-3 | Electricity – Circuits and their Components

QUIZ
PART-10

1. In which case will the lamp NOT glow even when the switch is closed?
- A. Case A only
B. Case B only
C. Case C only
D. Case C and D (D)

Explanation: In cases C and D, the LED is connected incorrectly, so current does not flow properly and the lamp does not glow.

2. Why does the lamp glow in cases A and B?
- A. Because the switch is open
B. Because the circuit is incomplete
C. Because the bulb is connected in a complete circuit
D. Because the battery is not required (C)

Explanation: In cases A and B, the circuit is complete and the bulb is correctly connected, allowing current to flow.

3. Which device can be used to identify the positive and negative terminals of a battery if markings are not visible?
- A. Bulb
B. Switch
C. LED
D. Wire (C)

Explanation: An LED glows only when connected in the correct direction, helping identify battery terminals.

4. When using an LED to identify battery terminals, which LED leg is connected to the positive terminal?
- A. Shorter leg
B. Bent leg
C. Longer leg
D. Plastic cover (C)

Explanation: The longer leg of an LED is connected to the positive terminal of the battery.

5. What does it indicate if an LED does NOT glow when connected to a battery?
- A. The LED is broken
B. The battery has no terminals
C. The connections are reversed
D. The circuit is complete (C)

Explanation: LEDs glow only in one direction; reversing the connections allows it to glow.

6. Which of the following items is required to test whether a cell is working?
- A. Plastic box
B. Torch bulb or LED
C. Wooden board
D. Paper clip only (B)

Explanation: A torch bulb or LED is required to check whether a cell can supply electric current.

7. How can a working cell be identified during testing?
- A. It feels warm
B. It is heavier
C. The bulb or LED glows
D. The switch clicks (C)

Explanation: If the bulb or LED glows, the cell is working.

8. Why should cells be tested one at a time in an activity?
- A. To save time
B. To avoid mixing cells
C. To correctly identify which cell is working
D. To increase brightness (C)

Explanation: Testing one cell at a time helps correctly identify working and non-working cells.

9. Why did the LED not glow in Tanya's circuit?
- A. The LED was broken
B. Only one cell was used
C. Cells were not connected in series
D. The switch was missing (C)

Explanation: LEDs require two cells connected in series to glow properly.

10. Which connection is correct to make an LED glow using two cells?
- A. Positive to positive terminals
B. Negative to negative terminals
C. Positive of first cell to negative of second cell
D. Cells placed side by side without connection (C)

Explanation: Cells must be connected in series by joining the positive terminal of one cell to the negative terminal of the other.