



BGS Vijnatham School

Worksheet – I (2026-27)

Chapter 3- Electricity: Circuits and their Components

Subject: Science

Step: VII

Name of Student

Section A – Multiple Choice Questions.

1. Electric circuit is complete when:
 - a) The switch is open
 - b) The bulb is fused
 - c) The switch is closed and all components are connected properly
 - d) The wires are disconnected
2. Incandescent bulb produces light because:
 - a) Filament gets heated and glows
 - b) Gas inside bulb emits light
 - c) Current passes through glass
 - d) Switch produces spark
3. LED is preferred over incandescent bulb because:
 - a) It consumes more energy
 - b) It emits less light
 - c) It is energy-efficient and long-lasting
 - d) It requires high voltage
4. Conductors allow electricity to pass because:
 - a) They have free electrons
 - b) They are made of plastic
 - c) They resist current completely
 - d) They are insulators
5. Insulators are used in wires mainly to:
 - a) Increase current flow
 - b) Prevent electric shocks
 - c) Reduce cost of wires
 - d) Glow in dark

6. IEC stands for:
 - a) International Electrical Council
 - b) International Electrotechnical Commission
 - c) International Energy Committee
 - d) International Engineering Council
7. IEEE is known for:
 - a) Setting standards in electrical and electronics engineering
 - b) Manufacturing bulbs
 - c) Producing insulators
 - d) Selling wires
8. Adolescence refers to the period:
 - a) 0–5 years
 - b) 6–12 years
 - c) 11–19 years
 - d) 20–30 years
9. Puberty is marked by:
 - a) Growth of body hair, voice changes, and development of reproductive organs
 - b) Loss of teeth
 - c) Learning to walk
 - d) Old age changes
10. Iron is important during adolescence because:
 - a) It helps in bone growth
 - b) It prevents anaemia and supports oxygen transport
 - c) It improves eyesight
 - d) It strengthens nails only
11. Physical changes in boys during adolescence include:
 - a) Broadening of hips
 - b) Deepening of voice and growth of facial hair
 - c) Onset of menstruation
 - d) Increase in breast size
12. Nutrition deficiency during adolescence can result in:
 - a) Stunted growth and weakened immunity
 - b) Faster growth and stronger immunity
 - c) No effect on health
 - d) Only temporary tiredness

Part B: Assertion–Reasoning Questions

Directions: For each question, mark:

- i. Both Assertion and Reason are true, and Reason is the correct explanation.
 - ii. Both Assertion and Reason are true, but Reason is not the correct explanation.
 - iii. Assertion is true, Reason is false.
 - iv. Assertion is false, Reason is true.
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1. **Assertion:** An electric circuit works only when it is closed.
Reason: In an open circuit, current cannot flow.
 2. **Assertion:** The filament of an incandescent bulb is made of tungsten.
Reason: Tungsten has a very high melting point.
 3. **Assertion:** LEDs are more eco-friendly than incandescent bulbs.
Reason: LEDs consume less energy and last longer.
 4. **Assertion:** Plastic covering on wires is necessary.
Reason: Plastic is a good conductor of electricity.
 5. **Assertion:** Adolescence is a period of rapid physical and mental growth.
Reason: Hormonal changes trigger development of secondary sexual characters.
 6. **Assertion:** Menstruation is a natural process in girls.
Reason: It prepares the body for reproduction.
 7. **Assertion:** Balanced diet is essential during adolescence.
Reason: Adolescents need extra nutrients for growth and development.
 8. **Assertion:** Vitamin B12 is important for nerve health.
Reason: It helps in the formation of red blood cells.

