



Class 10 Science | Magnetic Effects Of Electric Current

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. The magnetic field lines around a straight current-carrying wire are:

- A. Parallel straight lines
- B. Radial outward lines
- C. Random disconnected curves
- D. Concentric circles

2. The right-hand thumb rule relates thumb direction to the direction of:

- A. Conventional current
- B. Force on a charge
- C. Magnetic north only
- D. Electron drift always

3. Reversing current in a straight wire reverses its:

- A. Magnetic field direction
- B. Mass
- C. Length
- D. Resistance necessarily

4. At a fixed distance from a wire, increasing its current generally:

- A. Destroys field lines
- B. Strengthens its magnetic field
- C. Weakens its magnetic field
- D. Leaves its field zero

5. Magnetic field-line density is greatest where the field is:

- A. Weakest
- B. Always zero
- C. Changing polarity only
- D. Strongest

6. Two magnetic field lines cannot intersect because that would imply:

- A. No north pole
- B. Zero magnetic force everywhere
- C. Only one field line exists
- D. Two field directions at one point

7. Inside a long current-carrying solenoid, the field is approximately:

- A. Radially outward
- B. Uniform and parallel to its axis
- C. Zero everywhere
- D. Circular around each point randomly

8. Inserting a soft iron core inside a solenoid generally:

- A. Stops all current
- B. Reverses current
- C. Strengthens the magnetic field
- D. Removes the field

9. A current-carrying wire parallel to a uniform magnetic field experiences:

- A. Force proportional to voltage alone
- B. Zero magnetic force
- C. Maximum force
- D. Force along the field

10. The force on a current-carrying wire in a magnetic field is greatest when they are:

- A. Antiparallel
- B. Perpendicular
- C. Parallel
- D. At 0°

11. Fleming's left-hand rule helps determine the direction of:

- A. Battery voltage
- B. Heat flow
- C. Force on a current-carrying conductor
- D. Electric resistance

12. Reversing both current and magnetic field directions leaves the force direction:

- A. Along the conductor
- B. Always zero
- C. Reversed
- D. Unchanged

13. The earth wire in an appliance mainly provides a:

- A. Normal supply path to its heater
- B. Means to increase power
- C. High-voltage output
- D. Low-resistance safety path from its metal body

14. A domestic fuse should be connected in the:

- A. Neutral wire only with live uninterrupted
- B. Earth wire only
- C. Plastic casing
- D. Live wire

15. A short circuit can occur when:

- A. A lamp is switched off normally
- B. Live and neutral wires contact with very low resistance
- C. Only the earth wire is removed
- D. Resistance becomes infinite

ANSWER KEY — check after completing all 15 questions

1.D 2.A 3.A 4.B 5.D 6.D 7.B 8.C 9.B 10.B 11.C 12.D 13.D 14.D 15.B

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper