



Class 12 Physics | Moving Charges And Magnetism

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

1. Magnetic force on a positive charge q moving at speed v perpendicular to B has magnitude:

- A. qB/v B. 0 C. qvB D. qv/B

2. A charge moving parallel to a magnetic field experiences magnetic force:

- A. $2qvB$ B. Zero C. qvB D. qB/v

3. A magnetic force on a moving point charge does work equal to:

- A. mv^2 B. Zero C. qB D. qvB

4. A charged particle enters uniform B perpendicularly. Its path is:

- A. Elliptical necessarily B. Parabolic
C. Straight D. Circular

5. Radius of this circular path is:

- A. $\frac{abs(q)B}{(mv)}$ B. $\frac{m}{(abs(q)Bv)}$
C. $\frac{mvB}{abs(q)}$ D. $\frac{mv}{(abs(q)B)}$

6. For fixed charge, mass and B , doubling particle speed makes radius:

- A. Unchanged B. Twice C. Four times D. Half

7. Field at distance r from a long straight current I is:

- A. $\frac{\mu_0 I}{(2\pi r)}$ B. $\frac{\mu_0 I r}{(2\pi)}$ C. $\frac{\mu_0 I}{(4\pi r^2)}$ D. $\frac{\mu_0 I}{(2r^2)}$

8. Doubling distance from a long straight wire makes field:

- A. One-fourth B. Twice C. Half D. Unchanged

9. Two parallel wires carrying currents in the same direction:

- A. Repel B. Rotate necessarily
C. Exert zero force D. Attract

10. A straight wire 0.2 m long carries 5 A perpendicular to 0.4 T field. Force is:

- A. 4 N B. 2.5 N C. 0.04 N D. 0.4 N

11. Field at the centre of one circular loop of radius R carrying I is:

- A. $\frac{\mu_0 I R}{2}$ B. $\frac{\mu_0 I}{(2\pi R)}$ C. $\frac{\mu_0 I}{R^2}$ D. $\frac{\mu_0 I}{(2R)}$

12. Magnetic dipole moment of an N -turn coil of area A carrying I is:

- A. NI/A B. IA/N C. NA/I D. NIA

13. Torque on a coil of moment m in B is greatest when its normal is:

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

14. A moving-coil galvanometer is converted to an ammeter using:

- A. A capacitor in series
B. High resistance in series
C. High resistance in parallel only
D. Low resistance in parallel

15. A galvanometer is converted to a voltmeter using:

- A. High resistance in series
B. An inductor in parallel
C. Low resistance in parallel
D. A short circuit

ANSWER KEY — check after completing all 15 questions

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

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