



Class 12 Physics | Electric Charges And Fields

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

1. Two point charges have force F in vacuum. If both charges double at fixed distance, force becomes:

- A. $F/2$ B. $2F$ C. $F/4$ D. $4F$

2. A $2\ \mu\text{C}$ charge in a uniform field of $300\ \text{N/C}$ experiences force:

- A. $6 \times 10^{-6}\ \text{N}$ B. $600\ \text{N}$ C. $6 \times 10^{-4}\ \text{N}$ D. $150\ \text{N}$

3. Electric field due to an isolated positive point charge points:

- A. Tangentially B. Radially inward
C. Along a closed circle D. Radially outward

4. At the midpoint between two equal positive charges, net field is:

- A. Directed toward one charge
B. Twice one charge's field
C. Zero
D. Infinite

5. At the midpoint between equal and opposite charges, field points:

- A. From positive toward negative charge
B. From negative toward positive charge
C. Perpendicular to their line
D. Nowhere because it is zero

6. Electric dipole moment is directed from:

- A. Negative to positive charge
B. Perpendicular to dipole axis
C. Centre to either end
D. Positive to negative charge

7. A dipole with moment p in field E has maximum torque:

- A. pE B. E/p C. 0 D. p/E

8. A dipole parallel to a uniform electric field has torque:

- A. $pE/2$ B. pE C. $2pE$ D. Zero

9. Electric flux through area A with normal parallel to uniform field E is:

- A. A/E B. EA C. 0 D. E/A

10. A closed surface encloses charge q . Net electric flux is:

- A. 0 always B. q/ϵ_0 C. $q\epsilon_0$ D. $q/(4\pi\epsilon_0)$

11. A charge lies outside a closed surface. Its net flux through that surface is:

- A. q/ϵ_0 B. Zero C. $-q/\epsilon_0$ D. $q/(2\epsilon_0)$

12. Inside a charged conducting sphere in electrostatic equilibrium, field is:

- A. Zero
B. Proportional to radius
C. Infinite
D. Constant nonzero

13. Field just outside an infinite nonconducting sheet of charge density σ is:

- A. $2\sigma/\epsilon_0$ B. σ/ϵ_0 C. $\sigma r/\epsilon_0$ D. $\sigma/(2\epsilon_0)$

14. At large distance r , a short dipole's axial field varies as:

- A. $1/r^3$ B. $1/r$ C. r D. $1/r^2$

15. A positive charge is moved along an electric field line. The electric force on it acts:

- A. Only if it accelerates
B. Along the field
C. Against the field
D. Perpendicular to the field

ANSWER KEY — check after completing all 15 questions

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

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