

DPP – 4 (20 MCQ + 5 Short Questions)

A. MCQ (20 Questions)

1. Electric field between two equal and opposite charges is called:
(A) Dipole field
(B) Uniform field
(C) Zero field
(D) None
2. Torque on a dipole is maximum when $\theta =$
(A) 0°
(B) 90°
(C) 180°
(D) 30°
3. Flux through a closed surface depends on:
(A) charge enclosed
(B) shape
(C) material
(D) none
4. Coulomb force is a:
(A) long-range force
(B) short-range
(C) contact
(D) nuclear
5. If electric field doubles and area halves, flux:
(A) doubles
(B) halves
(C) same
(D) zero
6. Electric field is perpendicular to:
(A) magnetic lines
(B) equipotential surface
(C) charge
(D) flux
7. Quantisation implies:
(A) $Q = ne$
(B) $Q = e$
(C) Q is continuous
(D) $Q = m/v$
8. Unit of dipole moment:
(A) C-m
(B) C/m
(C) Nm
(D) J/C
9. Electric field due to infinite line charge $\propto$
(A) $1/r$

- (B) $1/r^2$
- (C) r
- (D) constant

10. Electric flux is zero when:

- (A) $E \perp A$
- (B) $E = 0$
- (C) $\theta = 90^\circ$
- (D) All of these

11. Electric lines originate from:

- (A) + charge
- (B) – charge
- (C) neutral
- (D) none

12. Force between two charges is:

- (A) attractive only
- (B) repulsive only
- (C) attractive or repulsive
- (D) none

13. Value of $k =$

- (A) $9 \times 10^9 \times 10^9 \times 10^9$
- (B) $9 \times 10^7 \times 10^7 \times 10^7$
- (C) $9 \times 10^{-9} \times 10^{-9} \times 10^{-9}$
- (D) None

14. Electric field is defined as:

- (A) $F \times q$
- (B) F/q
- (C) q/F
- (D) none

15. SI unit of flux is:

- (A) $N \text{ m}^2/C$
- (B) J/C
- (C) C/N
- (D) None

16. Dipole moment depends on:

- (A) charge $\times$ separation
- (B) charge only
- (C) separation only
- (D) none

17. If electric flux increases, it means:

- (A) more charge enclosed
- (B) less charge enclosed
- (C) no change in charge
- (D) surface area decreases

18. Electric field lines are:

- (A) imaginary
- (B) real

- (C) dotted
- (D) none

19. Coulomb force is proportional to:

- (A) $q_1 q_2$
- (B) $q_1 + q_2$
- (C) q_1 / q_2
- (D) none

20. Electric dipole consists of:

- (A) $+q$ and $-q$
 - (B) two $+$ charges
 - (C) two $-$ charges
 - (D) neutral atom
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B. Short Questions

1. What is electric dipole moment? Give SI unit.
2. Write two differences between torque and force.
3. What is equipotential surface? State two properties.
4. Why is electric field perpendicular to equipotential surfaces?
5. Write any three properties of electric field lines.