

Chapter 1: Electric Field

Write on the topic of “Electric Field” of the following points:

- Electric Charge.
- Coulomb's Law.
- The electric field of point charges, the electric field of an electric dipole and the electric field of a ring.
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- Charged particles in a uniform electric field.
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Chapter 2: Gauss's Law

Write on the topic of “Gauss's Law” of the following points:

- The electric flux.
- Gauss's Law.
- Applications of Gauss's Law.
Electric field of a point charge
Electric field of a spherical conductor
Electric field of a line charge
Electric field of a conducting sheet

Chapter 3: Electric Potential

Write on the topic of “Electric Potential” of the following points:

- The electric potential energy.
- The potential of a uniform electric field.
- The potential of point charges.

- Work to assemble a group of point charges.
- Electric field from the electric potential
- The effect of surface curvature on the electric field of charged conductor.

Chapter 4: Capacitance

Write on the topic of “Capacitance” of the following points:

- Definition of Capacitance
- Calculating Capacitance for

Parallel-plate capacitor

Cylindrical capacitor (Coaxial cable)

Spherical capacitor

- Energy Stored in a charged capacitor.
- Capacitors with Dielectrics

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Chapter 7: Magnetic Field

Write on the topic of “Magnetic field” of the following points:

- Ampere's law.
- Applications on Ampere's law
Magnetic field of a thin straight wire
Magnetic field of a thick straight wire
Magnetic field of a solenoid
- Magnetic flux.
- Gauss's law in Magnetism