24 Lecture - PHY101

Important Subjective

What is the relationship between the electric field and the electric potential?

Answer: The electric field is the negative gradient of the electric potential. E = -?V.

What is an electric dipole?

Answer: An electric dipole is a pair of opposite charges of equal magnitude separated by a distance d.

Define electric flux.

Answer: Electric flux is the number of electric field lines passing through a given surface.

What is Gauss's law?

Answer: Gauss's law relates the electric flux through a closed surface to the charge enclosed within the surface. It states that the electric flux through a closed surface is proportional to the charge enclosed within the surface.

What is meant by the term electric potential energy?

Answer: Electric potential energy is the energy associated with the position of a charged object in an electric field.

Define capacitance.

Answer: Capacitance is the ability of a system to store electrical charge.

What is an electric field?

Answer: An electric field is a region of space around a charged object in which a force would be exerted on other charged objects.

What is an electric potential?

Answer: Electric potential is the electric potential energy per unit charge.

What is the formula for the electric field between two charged plates?

Answer: E = V/d, where E is the electric field, V is the potential difference between the plates, and d is the distance between the plates.

What is the difference between conductors and insulators?

Answer: Conductors allow electricity to flow through them easily, while insulators do not. Conductors have free electrons that can move through the material, while insulators do not.