Physics - 12th Class Physics Chapter 1 Short Questions Preparation

Q1. Give the statement of Gauss's law.

Ans 1: It states that the total electric flux through any closed surface is equal to $1/e_o$ times the total charged encloses in it.

Q2. Define xerography and photoconductor.

Ans 1: Xerograph is a photocopying process,It is taken from the Greek word "xeros" and "graphos" when mean dry writing. Photoconductor is an insulator in the dark and becomes a conductor when exposed to light.

Q3. What is Potential Gradient?

Ans 1: The quantity gives the maximum value of rate of change of electric potential in magnitude and direction with respect to distance,It is known as potential gradient.

Q4. Why do the electrons tend to go to region of high potential?

Ans 1: We know that the electrons are negatively charged particles.So,when they are put inside an electric field they tend to go the region of high potential from the region of low potential.

Q5. Define electric potential and give its SI units.

Ans 1: The electric potential at any point in an electric field is equal to work done in bringing a unit positive charge from infinity to that point keeping it in equilibrium.Its SI unit is Volt (V).

Q6. Describe the force on positive charge when placed between parallel plates with opposite and equal charges.

Ans 1: When a positive point charge is placed between parallel plates with opposite but equal amount of charge ,then electric field intensity due to one plate is equal in magnitude but in same direction of the electric field intensity due to the other plate.So the value of resultant electric field intensity is non-zero.Hence the point charge will be accelerated towards negative plate.

Q7. If a point charge q of mass is released in a non-uniform electric field with field lines pointing in the same directions,will it make rectilinear motion?

Ans 1: If a point charge q of mass m is placed at any point in the field ,it will follow straight or rectilinear path along the field line due to repulsive force.

Q8. What is electric potential energy and electric potential difference?

Ans 1: Electric potential energy: The energy is acquired by unit positive charge in carrying it from one point to the other against the electric field keeping it in electrostatic equilibrium is called as electric potential energy,It is the energy stored in the charge 'q' because of its position in an electric field.It is measured in joules.

Ans 2: Electrical potential difference: The electric potential difference between two points is defined as the work done in carrying a unit a positive charge from one point to other point while keeping the charge in electrostatic equilibrium.

Q9. Define electric intensity and give its unit.

Ans 1: The electrostatic force per unit test charge,at a specific point in the electric field is called electric field intensity.Its unit is NC^{-1}.

Q10. How sharks looks their prey?

Ans 1: Sharks have special organs,called the ampullae of Lorenzini that are very sensitive to electric field and can detect potential difference of the order of nano volt and can locate their prey very precisely.
