Physics - ICS Part 2 Physics Chapter 12 Short Questions Preparation

Q1. State coulomb's law.

Ans 1: It states that the force of attraction or repulsion between two point charges is directly proportional to the product of the magnitudes of charge and inversely proportional to the square of the distance between them.

Q2. 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.

Q3. Define electric polarization and electric dipole.

Ans 1: When dielectric is placed between the plants of capacitor,positive and negative charge of its molecules displace from their position.Positive charges are attracted towards negative plates and negative charges towards positive plate,dipoles are formed.This process is called polarization.
Two equal and opposite charges separated by a small distance is called dipole.

Q4. 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.

Q5. Distinguished between electric field and field intensity.

Ans 1: Electric Field: The space or region around the charge in which it exerts its electric force on other charges is called electric field.

Ans 2: Electric field intensity: At any point in electric field the force experienced by a point charge q is termed as electric or strength at that point.

Q6. 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.

Q7. Write two properties of electric field.

Ans 1: 1.Electric field line originate from positive charge and end om negative charges.
2.The tangent to a field line at any point gives the direction of the electric field intensity at the point.

Q8. A point charge move rectilinear path in an electric field.Explain.

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

Q9. Define electrostatics and electric force,

Ans 1: Electrostatics: The branch of physics which deals with the study of stationary charges is called electrostatics.Electric force: The force which holds the negative and positive charges that make up atoms or molecule is called electric force.

Q10. Electric lines of force never cross why?

Ans 1: Electric lines of force never cross each other,This is because that electric field line has only one direction at any given point.If the lines cross ,electric field lines could have more than one direction which is not possible.
