Physics - ICS Part 2 Physics Chapter 12 Short Questions Preparation

Q1. 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.

Q2. Define electric flux.Write its SI units.

Ans 1: The number of the field lines passing through a certain element of area is known as electric flux through that area.Its SI units is Nm^2C^{-1}.

Q3. What is time constant?

Ans 1: The time required by the capacitor to deposit 0.63 times the equilibrium charge qois called time constant.The product of R and C has the dimensions of time So,this product is known as time constant.

Q4. Describe the force or forces on a positive point charge when placed between parallel plate,with similar and equal charges.

Ans 1: When a positive point charge is placed between parallel plates with similar and equal charges,then the electric field intensity due to one plate is equal in magnitude but opposite in direction of electric intensity due to other plate.So the value of resultant electric field intensity E is zero,Hence the net force on the positive charge is zero,Thus is will remain at rest.

Q5. Do electrons tend to go region of high potential or low potential?

Ans 1: Electrons tend to go to a region of high potential from low potential because electrons are negatively charged.

Q6. 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.

Q7. 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.

Q8. What is strength of electric field inside a hollow charged sphere and why?

Ans 1: The strength of electric field inside a hollow charge is zero.inside a hollow charge sphere q=0.

Q9. Define electron volt.

Ans 1: It is defined as The amount of energy acquired or lost by an electron when it is displaced across two points having potential difference of one volt.It is measure on electrons volts.

Q10. 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.