Physics - ICS Part 2 Physics Chapter 12 Short Questions Preparation

Q1. How can you identify that when plate of capacitor is positively charged?

Ans 1: For the identification of positively charged plate of a capacitor golf leaf electroscope is used,For this purpose the plate of capacitor is brought near the positively charged disc of electroscope.If the divergence of the gold leaves increase then the capacitor will be positively charged and vice versa.

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. Write down two difference between electric and gravitational force.

Ans 1: Differences:Electrical force is might be attractive as well as repulsive while the gravitational force is only attractive.Electrostatics force is medium dependent while the gravitational force is not.

Q4. Is it true that Gauss's law states that the total number of lines of forces crossing any closed surface in the outwards direction is proportional to the net positive charged enclosed within surface?

Ans 1: Yes the above statement is true,The total number of lines of force crossing any close surface in the outwards directions means electric flux.

Q5. 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.

Q6. 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.

Q7. 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.

Q8. 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.

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. Define Time constant for RC Circuit.

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