Physics - 10th Class Physics English Medium Chapter 13 Preparation

Q1. Define capacitance of capacitors. Write its expression and S.I. unit.

Ans 1: Capacitance of capacitors: The ability of a capacitor to store the charge is called capacitance.
SI unit of capacitance is Farad which is equal to CV-1

Q2. Is electric intensity a vector quantity?

Ans 1: Electric field intensity being a force is a vector quantity.

Q3. Define electric field intensity. Also write its mathematical expression and S.I unit.

Ans 1: The electric field intensity at any point is defined as the force acting on unit positive charge placed at the point.

Q4. Difference between Electric potential and Potential energy.

Ans 1: Electric potential :
Electric potential is a characteristic of the field of source charge and is independent of a test charge that may be placed in the field.

Ans 2: Potential energy: P.E. is characteristic of both the field and test charge. It is produced due to interaction of the field and the charge placed the field.

Q5. Define Farad.

Ans 1: If one coulomb of charge given to the plates of a capacitor produces potential difference on one volt between the plates of the capacitor then its capacitance would be one farad.
Farad is a large unit, usually we use a smaller unit called micro farad and bico farad etc.

Q6. Define electrostatic potential also write its expression?

Ans 1: Electrostatic potential at a point in an electric field is equal to the amount of work done in bringing a unit positive charge from infinity to that point.
Mathematically expression: V = W/q
SI unit of electrostatic potential is volt which is equal to JC-1

Q7. What is meant by electric field and electric intensity?

Ans 1: Electric field. The electric field is a region around a charge in which it exerts electrostatic force on another charges.

Ans 2: Electric field intensity: The strength of electric field at any point in space is known as electric field intensity.

Q8. How electric field helpful for some animals?

Ans 1: Some animals produce electric field to detect nearby objects that affect the field.

Q9. Write Uses of capacitors.

Ans 1: i. Capacitors can be use to differntiate between high and low frequency signals.
ii. Capacitors can be use in tuning of radio.
iii. Capacitors can be use in table fans, exhaust fans and fan motors, in air conditioners and coolers etc.

Q10. What is meant by electrostatic induction?

Ans 1: In the presence of charge body an insulated conductor develop positive charge at one end and negative charge at the other end this process is called electrostatic induction.
