Physics - 10th Class Physics English Medium Chapter 13 Preparation

Q1. 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.

Q2. 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.

Q3. Define volt.

Ans 1: If the potential energy of one coulomb of charge at a oint int he electric field is one joule. the potential of that point will be one volt.

Q4. 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.

Q5. Differentiate between fixed and variable capacitors.

Ans 1: Fixed capacitor: Fixed capacitor is a capacitor whose capacitance remains fixed. For example; Paper capacitor and Mica capacitor.

Ans 2: Variable capacitor : Variable capacitor is a capacitor whose capacitance can be changed. for example : Electrolytic capacitor.

Q6. 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.

Q7. What is the unit of electric potential or electric energy?

Ans 1: Electron volt is another and more useful unit of electric potential or electric energy.

Q8. 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

Q9. Rubber tires get charged form friction with the road what is the polarity of the charge.

Ans 1: The rubber and road will get opposite charges.The rubber tires get negatively charged.

Q10. Is electric intensity a vector quantity?

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