Physics Chapter: Electrostatics [11th std. CET]

Class: 11th Std.

1. Electrostatics is the study of charges at
   (a) rest (b) moving at slow speeds (c)moving at the speed of light
   (d)having non uniform velocity
2. Which of the following does not have additive nature?
   (a) charge of elementary particles (b)mass (c) temperature (d)velocity
3. In charging by induction, the charged body and the conductor are
   (a) in contact with each other (b) are infinitely far away from each other
   (c)are close to each but not in contact with each other (d) never interact with each other
4. The amount by which the charge on a body can be increased or decreased on an object is always going to be integral
   (a) multiple of 2.5 (b) multiple of n/2 (c) multiple of relative permittivity
   (d) multiple of n
5. Relative permittivity tells us about how much _____ the medium offers to the force between two charges.
   (a) resistance (b) support (c) approval (d)conductance
6. The ratio of permittivity of water to that of permittivity of vacuum is 2:3. The ratio of electrostatic force in vacuum to that of electrostatic force in water is
   (a) 4:9 (b)8:27 (c)3:2 (d)2:3
7. Relative permittivity is also known as
   (a) inductive capacity (b) inductive resistance (c) inductive conductance
   (d) inductive induction
8. The electrostatic force between two charges in vacuum is 20 N. when the charges are placed inside water the force is reduced by $\frac{1}{10}$ th of the force between the same two charges placed in vacuum. The force between two charges in water is
   (a) 200 N (b) 2 N (c) 0.2 N (d) 0.02 N
9. Two charges of 2 μC and 3 μC are placed at a distance of 3 m apart from each other. The electrostatic force between them is
   (a) 6×10^{-3} N (b) 9×10^{-3} N (c) 9×10^{9} N (d) 6×10^{9} N
10. Charge on an electron is 1.6×10^{-19} C. How many electrons are required to accumulate a charge of one coulomb?
    (a) 6.25×10^{23} electrons (b) 6.25×10^{-23} electrons (c) 6.02×10^{23} electrons
    (d) 9×10^{9} electrons
11. Electric field exists around a charge _____ presence of other charges
    (a) irrespective of (b) only in (c) in joules (c) in coulomb's
12. The dimensional formula for electric field is
    (a) $[L^{-3} M^{-5} T^{-1} A^{-2}]$ (b) $[L M^{-1} T^{-3} A^{-1}]$ (c) $[L M T^{-3} A^{-1}]$ (d) $[L^{3} M^{5} T^{1} A^{2}]$

13. Electric field around a charged particle is an example of
    (a) non uniform electric field (b) uniform electric field
    (c) accelerated electric field (d) relative electric field

14 The electric lines of force
    (a) do not pass through conductors and insulators
    (b) pass through conductors but not through insulators
    (c) pass through both conductors as well as insulators
    (d) pass through insulators but not through conductors

15 The electric flux through a conductor of any shape because of 3 μC and 2 μC situated outside the conductor is
    (a) 6 Vm (b) zero (c) 6×10^{12} N (d) 6×10^{-12} Vm

16 Dipole moment describes
    (a) strength of dipole
    (b) orientation of dipole
    (c) angle between axial line and equatorial line
    (d) electric field

17 The electric dipole moment is 3 D is placed parallel in a electric field of 5 V/m. What is the torque acting on the electric dipole
    (a) 0 Nm (b) 15×10^{-3} Nm (c) 45 Nm (d)49.5×10^{-30} Nm

18 Two point charges of + 5 μC are so placed so that they experience a force of 8×10^3 N. They are then moved apart, so that the force is now 2×10^3 N, the distance between them is
    (a) ¼ the previous distance (b) double the previous distance
    (c) four times the previous distance (d) half the previous distance

19 Side of a cube is 2 m. Charge of 90 C is uniformly distributed over the cube. The volume charge density is
    (a) 12.22 C/m^3 (b) 11.25 C/m^3 (c)180 C/m^3 (d)25 C/m^3

20 The electric field in a region is given by E = 5.0 $\hat{k}$ N/C. Calculate the electric flux through a square of side 10 cm in the X Y plane is
    (a) 0 V m (b) 5×10^{-2} V m (c) 50 V m (d) 25 V m