UNIT TEST-1. ELECTROSTATICS. SUBJECT :PHYSICS. MARKS:50. TIME :1.30 HRS.
CLASS:XII

I.MULTIPLE. CHOICE. QUESTIONS. [5*1=5]

1.Which charge configuration produces a uniform electrified ?

a)Point Charge b)infinite uniform line charge c)uniformly Charged infinite plane

2.If voltage applied on a capacitor is increased from. V to 2V,choose the correct conclusion --------

a) Q remains the same, C is doubled b)Q is doubled,C is doubled c)C remain the same,Q is doubled

3.Two identical conducting balls having postive charges q1 and q2 are seperated center to center distance r.If they are made to touch each other and then separated to the same distance,the force between them will be----—----

a)less than before b) same as before c)more than before

4.An electric. Field E=10xi exists in certain region of space. Then the potential difference V = V0-VA,Where. V0 is the potential at the origion and Va is the potential at x=2m is---------

a)10J b)-20J c)+20J

5.The unit of dipole moment is---------

a)Cm b)Nc c)Nm

Ii.ANSWER THE FOLLOWING. ANY SIX QUESTIONS. Q.NO:10 IS COMPULSORY. (6×2=12)

6.What is meant by quantisation of charge ?

7.Define electric dipole. Give its unit

8.Write the short note on ‘electrostatic shielding ‘

9.What is corona discharge?

10.Calculate the number of eletrons in one Coulomb of negative charge

11.Define ‘electric flux'

12.What is an equipotential surface?

III.ANSWER THE FOLLOWING ANY SIX QUESTIONS .Q.NO:15 IS COMPULSORY. (6×3=18)

13.What is the differences between. Coulomb force and gravitational force?

14.Write a short note on superposition principle.

15.Dieclectric strength of air is 3×10^6 V/m,Suppose.radius of hollow sphere in the Van de Graff generator is R=0.5m,calculate the maximum potential difference created by this Van de Graaf generator.

16.What are Rules the followed by electric field lines

17.Discuss. the basic properties of electric charges

18.Derive an expression for torque experienced by aa dipole due to a uniform electric field.

19.Obtain the expression for energy stored in the parallel plate capacitor.

IV.ANSWER. THE FOLLOWING ANY THREE DETAILS QUESTIONS. (3×5=15)

20.Obtain the Gauss law from Coulomb's law.

21.Derive the expression for electrostatic potential due to an electric dipole.

22.Calculate the electric field due to a dipole on its equatorial plane.

23.Explain in detail the construction and working of Van de Graaff generator.

. All the best. Prepared by

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