Std 12 (Physics) Unit Test F.M.- 20

Time duration – 45 minutes

1. How much electric field will be produced by a point charge of 1C at a distance of 1m from it in air ? [1]
2. Write the dimensions of electric dipole moment. [1]
3. A charged oil drop of mass m is suspended in equilibrium between two horizontal conducting plates, each of area A m^2 and having charges +q and –q coulomb.
   Find the charge on the drop. [2]
4. An electric dipole is free to move in a uniform electric field. Explain its motion when it is placed a) Parallel to the field, b) perpendicular to the field [2]
5. Obtain an expression for intensity of electric field in end on position of an electric dipole. [3]
6. Derive the expression for the electric field E just outside a charged conductor. [3]
7. Two point charges +q and +4q are separated by a distance 6a. Find the point joining the two charges where the electric field is zero. [4]
8. A point charge of +10μC is at a distance 5cm directly above the centre of a square of side 10cm. What is the magnitude of electric flux through the square ? [4]