



Because of Today, Tomorrow Will Be Better

RK Academy

One Step Ahead To Your Success...



CLASS: - XII
SUB: - PHYSICS

WEEKLY TEST
CH 1

FM: - 20
TIME: - 45 MIN

- The number of electrons in one coulomb of charges is
a. 6.25×10^{18} b. 6.35×10^{16} c. 6.35×10^{10} d. 6.35×10^{12}
- The angle between the dipole moment and electric field at any point on the equatorial plane is
a. 90° b. 45° c. 0° d. 180°
- Acceleration of a charge particle of charge q and mass m moving in a uniform electric field of strength E is
a. qE/m b. m/qE c. mqE d. q/mE
- unit of electric dipole moment
a. C/m b. C^2m c. Cm d. none
- Electric flux through a face of cube if charge q is placed at one of its corners
a. q/ϵ_0 b. $q/6\epsilon_0$ c. $q/8\epsilon_0$ d. $q/24\epsilon_0$

2 MARKS

- What is quantization of charge? Find how many electrons transferred to a body to get $3C$ of charge. **2 MARKS**
- Two large, thin metal plates are parallel and close to each other. On their inner faces, the plates have surface charge densities of opposite signs and of magnitude $17.7 \times 10^{-22} C/m^2$. What is electric field intensity
(a) in the outer region of the first plate, and
(b) between the plates? **2 MARKS**

3 MARKS

- Three charges $+3\mu C$, $-2\mu C$ and $+2\mu C$ are placed at the corners of an equilateral triangle of side $1m$. find net force on $+3\mu C$. **(3 MARKS)**
- If a dipole is kept in a uniform electric field E , derive the expression for torque experienced by it. Diagrammatically represent the position of the dipole in stable and unstable equilibrium. **(3 MARKS)**

5 MARKS

- A dipole of $+q$ and $-q$ charge separated at $2l$ is placed on X -axis such that its centre lies at origin. Find expression for electric field at $(0, y)$ where $y \gg l$.
 - A hollow sphere of radius 8 cm is given a charge of $16\mu C$. what is the electric field intensity at centre and outer surface of the sphere.