Formula to solve Formula - Chapter - I Physics

Electrostatics.

1. $q = ne$ → no. of electrons.

2. $\vec{F}_{21} = \frac{1}{4\pi\varepsilon_0} \frac{q_1 q_2}{r^2} \hat{r}_{12}$ | $k \frac{q_1 q_2}{a_2} \hat{r}_{12}$ → Force of attraction or repulsion

3. $F_e = k\frac{e^2}{r^2}$ → Electorstatic Force [magnitude].

4. $F_c = \frac{Gm_1m_2}{r^2}$ → Gravition Force [magnitude or direction]

5. $\vec{E} = \frac{1}{4\pi\varepsilon_0} \frac{q}{r^2} \hat{r}$ → Find electric field.

6. $\tau = pE\sin 90^\circ$ | $2aqE\sin\theta$

7. $V_p = \frac{1}{4\pi\varepsilon_0} \frac{q}{r}$ →  electric [potential]

8. $\Phi_E = \vec{E}\cdot\vec{A} = EA\cos\theta$ [Electric flux]

9. $C = \frac{\varepsilon \cdot A}{d}$ → Capitanance

10. $C = \frac{\varepsilon_v \varepsilon \cdot A}{d}$ — Capictor. Capitanance (air or vacuum) medium

11. $\frac{1}{C_s} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \dots$ | $C_s = \frac{C_1 C_2}{C_1 + C_2}$

$C_p = C_1 + C_2 + C_3 + \dots$

12. $V = Ed$ | $W = \frac{w}{q}$

13. $E = \frac{-dv}{dx}$