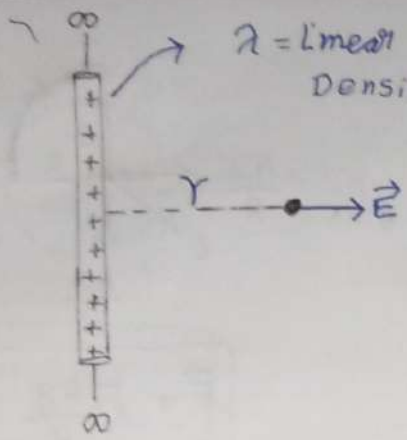
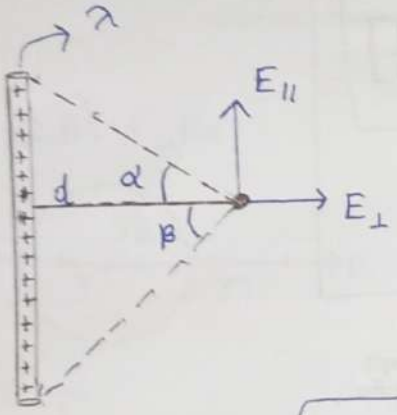
Uniformly charged wire/Rod of infinite length



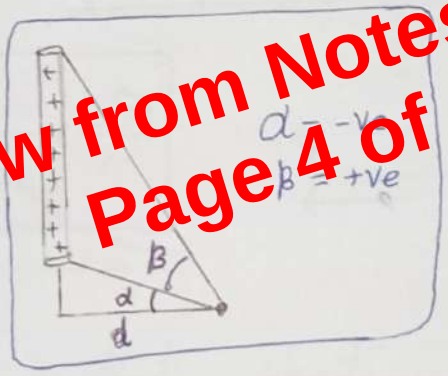
$$\vec{E} = \frac{2k\lambda}{r}$$

Charged wire with non infinite Length

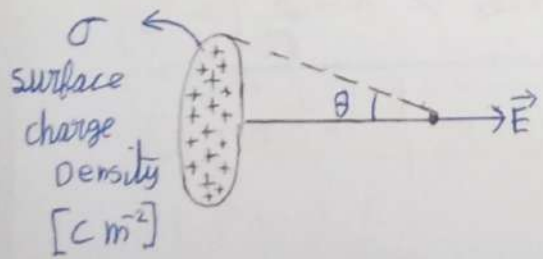


$$\vec{E}_{\perp} = \frac{k\lambda}{d}[\sin\alpha + \sin\beta]$$

$$\vec{E}_{\parallel} = \frac{k\lambda}{d}[\cos\alpha - \cos\beta]$$

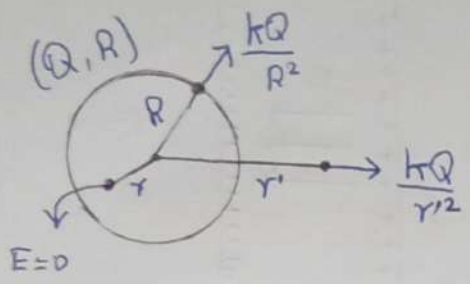


Uniformly charges Disc

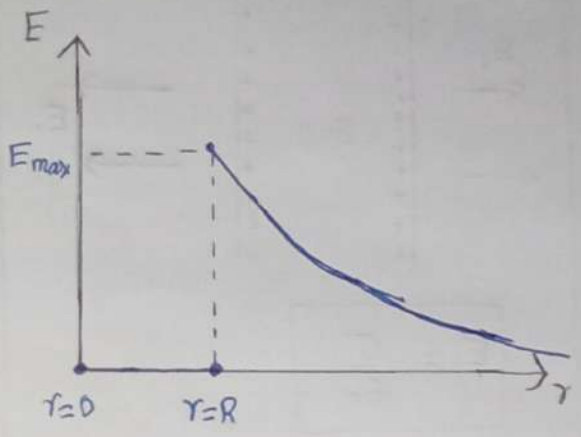


$$\vec{E} = \frac{\sigma}{2\varepsilon_0}[1 - \cos\theta]$$

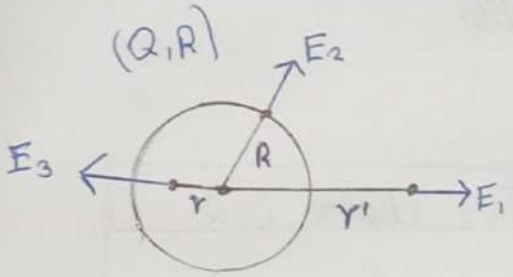
Hollow Sphere (conducting solid sphere)



$E_{inside} = 0$
shell theorem



Solid Sphere (Non conducting)

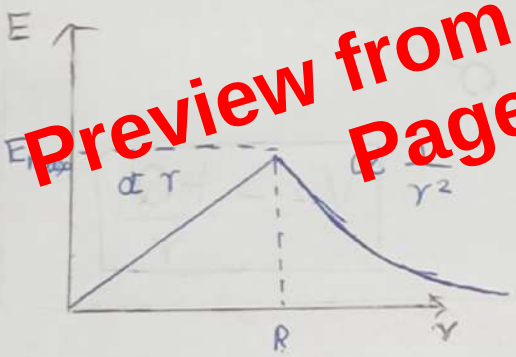


$$E_1 = \frac{kQ}{(r')^2}$$

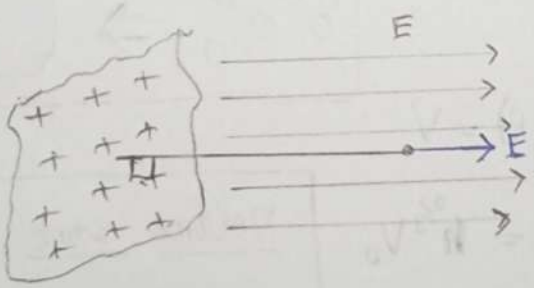
$$E_2 = \frac{kQ}{R^2}$$

$$(E_3)_{inside} = \left(\frac{kQ}{R^3}\right) r = \frac{\rho r}{3\varepsilon_0}$$

$$\rho = \frac{Q}{\frac{4\pi}{3}R^3}$$



Infinite Sheet



$$E = \frac{\sigma}{2\varepsilon_0}$$ ⇒ Uniform

* Independent of distance.