flux through Gaussian Surface.

$$\phi = \oint \vec{E} \cdot d\vec{s}$$

$$= \oint E\, ds \cos 0^\circ$$

$\theta = 0^\circ$

$$= E \oint ds$$ ——— curved surface area of cylindrical part

$$= E\, 2\pi r l \quad \text{—(I)}$$

Acc to Gauss law

$$\phi = \frac{1}{\varepsilon_0} q_{enclosed}$$

$$\phi = \frac{1}{\varepsilon_0} \lambda l \quad \text{—(II)}$$

$$\lambda = \frac{q}{l}$$

$$\boxed{q = \lambda l}$$

from (I) & (II)

$$E\, 2\pi r l = \frac{1}{\varepsilon_0} \lambda l$$

$$\boxed{E = \frac{\lambda}{2\pi \varepsilon_0 r}}$$