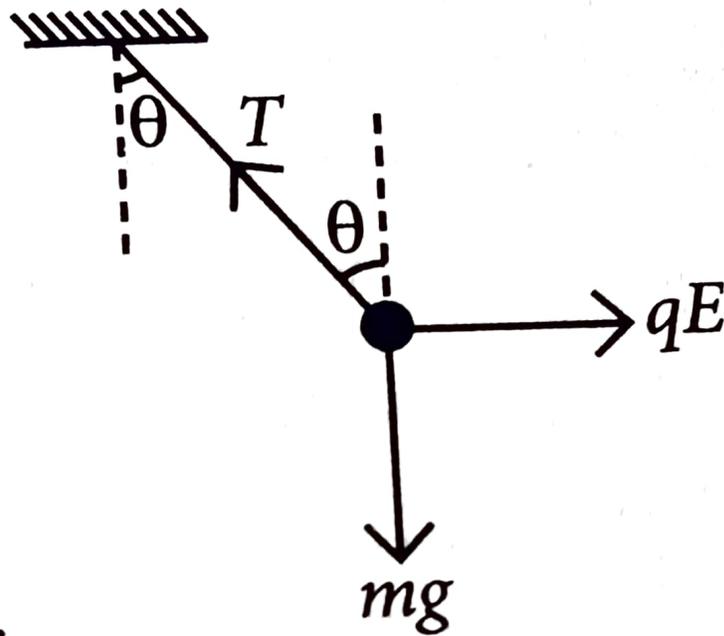


The forces acting on the bob are its weight and the force due to field.



At equilibrium,

$$T \cos \theta = mg \quad \dots(i)$$

$$\text{and } T \sin \theta = qE \quad \dots(ii)$$

$$\text{Dividing (ii) by (i), } \tan \theta = \frac{qE}{mg}$$

$$\Rightarrow \theta = \tan^{-1} \left(\frac{5 \times 10^{-6} \times 2 \times 10^3}{2 \times 10^{-3} \times 10} \right)$$

$$= \tan^{-1}(0.5)$$