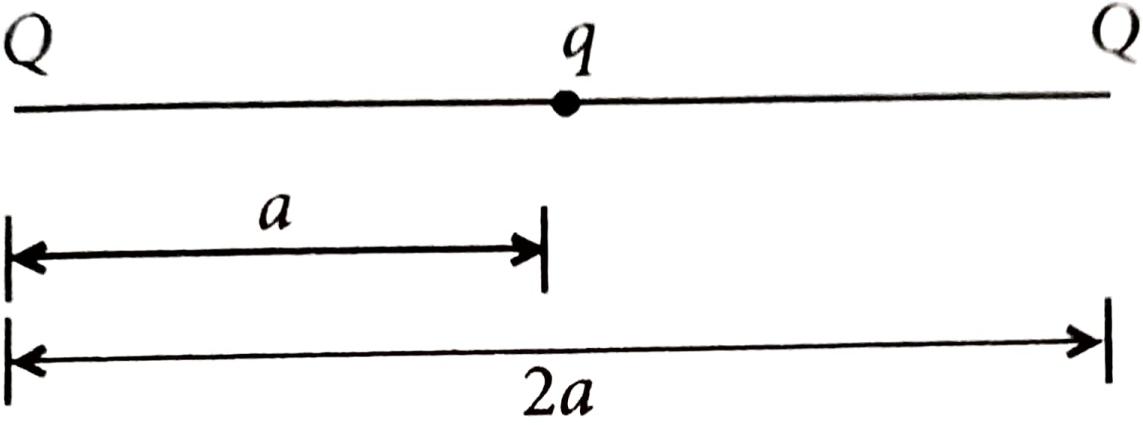
For equilibrium, total potential energy = zero



$$\therefore \quad \frac{kQq}{a}+\frac{kQq}{a}+\frac{kQ^2}{2a}=0$$

$$q+q+\frac{Q}{2}=0 \quad \text{or} \quad q=-\frac{Q}{4}.$$