

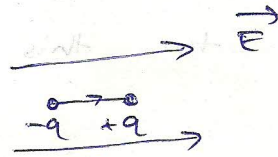
In which orientation a dipole in electric field is in

(i) stable equilibrium.

\Rightarrow P.E is min.

$$U = -p \cdot E \\ = -pE \cos \theta$$

min at $\cos \theta = 1$
 $\Rightarrow \theta = 0^\circ$

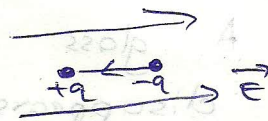


(ii) unstable equilibrium

\Rightarrow PE is max.

$$U = -p \cdot E \\ = -pE \cos \theta$$

Max $U_{max} = pE$
 $\cos \theta = -1$
 $\Rightarrow \theta = \pi$



2 Which part of EM spectrum has largest penetrating power?
 γ rays.

3 A plot of magnetic flux (ϕ) vs current (I) is shown in fig. for two inductors A & B. Which of the two has larger value of self inductance?

