

NEET ELECTRIC CHARGES AND FIELDS — DIPOLE IN A UNIFORM EXTERNAL FIELD (TORQUE) — PYQS

Max. Marks: 20
Questions: 5

Section A (MCQ) — 5 questions

Q.1 An electric dipole with dipole moment 5×10^{-6} Cm is aligned with the direction of a uniform electric field of magnitude 4×10^5 N/C. The dipole is then rotated through an angle of 60° with respect to the electric field. The change in the potential energy of the dipole is: [NEET (UG) 2025]

- (1) 1.2 J (2) 1.5 J (3) 0.8 J (4) 1.0 J

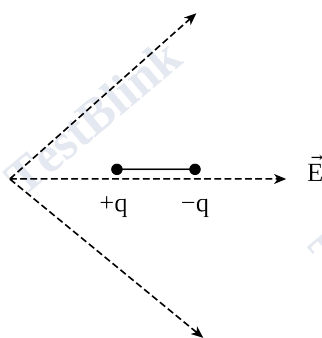
Scan or tap for the full solution 

Q.2 An electric dipole is placed at an angle of 30° with an electric field of intensity 2×10^5 N C $^{-1}$. It experiences a torque equal to 4 N m. Calculate the magnitude of charge on the dipole, if the dipole length is 2 cm. [NEET (UG) 2023]

- (1) 6 mC (2) 4 mC (3) 2 mC (4) 8 mC

Scan or tap for the full solution 

Q.3 A dipole is placed in an electric field as shown. In which direction will it move? [NEET (UG) 2021]



- (1) towards the right as its potential energy will increase.
 (2) towards the left as its potential energy will increase.
 (3) towards the right as its potential energy will decrease.
 (4) towards the left as its potential energy will decrease.

Scan or tap for the full solution 

Q.4 An electric dipole is placed at an angle of 30° with an electric field intensity 2×10^5 N C $^{-1}$. It experiences a torque equal to 4 N m. The charge on the dipole, if the dipole length is 2 cm, is [NEET 2016 (Phase 2)]

- (1) 8 mC (2) 2 mC (3) 5 mC (4) 7 μ C

Scan or tap for the full solution 

Q.5 A dipole of dipole moment $\vec{p}$ is placed in uniform electric field $\vec{E}$ then torque acting on it is given by [AIPMT 2001]

- (1) $\vec{\tau} = \vec{p} \cdot \vec{E}$ (2) $\vec{\tau} = \vec{p} \times \vec{E}$
 (3) $\vec{\tau} = \vec{p} + \vec{E}$ (4) $\vec{\tau} = \vec{p} - \vec{E}$

Scan or tap for the full solution 

ANSWER KEY

Ques.	1	2	3	4	5						
Ans.	4	3	3	2	2						