

NEET ELECTROSTATIC POTENTIAL AND CAPACITANCE — POTENTIAL ENERGY IN AN EXTERNAL FIELD (DIPOLE) — PYQS

Max. Marks: 16

Questions: 4

Section A (MCQ) — 4 questions

- Q.1** An electric dipole of dipole moment p is aligned parallel to a uniform electric field E . The energy required to rotate the dipole by 90° is

[NEET 2013 (Karnataka)]

- (1) p^2E (2) pE (3) infinity (4) pE^2

Scan or tap for the full solution



- Q.2** An electric dipole of moment p is placed in an electric field of intensity E . The dipole acquires a position such that the axis of the dipole makes an angle θ with the direction of the field. Assuming the potential energy of the dipole to be zero when $\theta = 90^\circ$, the torque and the potential energy of the dipole will respectively be

[AIPMT 2012 (Prelims)]

- (1) $pE\sin\theta$, $-pE\cos\theta$ (2) $pE\sin\theta$, $-2pE\cos\theta$
 (3) $pE\sin\theta$, $2pE\cos\theta$ (4) $pE\cos\theta$, $-pE\sin\theta$

Scan or tap for the full solution



- Q.3** An electric dipole of moment $\vec{p}$ is lying along a uniform electric field $\vec{E}$. The work done in rotating the dipole by 90° is

[AIPMT 2006]

- (1) pE (2) $\sqrt{2}pE$ (3) $pE/2$ (4) $2pE$

Scan or tap for the full solution



- Q.4** An electric dipole has the magnitude of its charge as q and its dipole moment is p . It is placed in a uniform electric field E . If its dipole moment is along the direction of the field, the force on it and its potential energy are respectively

[AIPMT 2004]

- (1) $2q.E$ and minimum (2) $q.E$ and $p.E$
 (3) zero and minimum (4) $q.E$ and maximum

Scan or tap for the full solution



ANSWER KEY

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