

NEET ELECTRIC CHARGES AND FIELDS — GAUSS'S LAW — PYQS

Max. Marks: 32

Questions: 8

Section A (MCQ) — 8 questions

Q.1 If $\oint_S \vec{E} \cdot d\vec{S} = 0$ over a surface, then:

[NEET (UG) 2023]

- (1) the magnitude of electric field on the surface is constant.
- (2) all the charges must necessarily be inside the surface.
- (3) the electric field inside the surface is necessarily uniform.
- (4) the number of flux lines entering the surface must be equal to the number of flux lines leaving it.

Scan or tap for the full solution



Q.2 The electric field in a certain region is acting radially outward and is given by $E = Ar$. A charge contained in a sphere of radius 'a' centred at the origin of the field, will be given by

[AIPMT 2015 (Cancelled)]

- (1) $4\pi\epsilon_0 Aa^3$ (2) $\epsilon_0 Aa^3$ (3) $4\pi\epsilon_0 Aa^2$ (4) $A\epsilon_0 a^2$

Scan or tap for the full solution



Q.3 What is the flux through a cube of side 'a' if a point charge of 'q' is at one of its corners?

[AIPMT 2012 (Prelims)]

- (1) $\frac{2q}{\epsilon_0}$ (2) $\frac{q}{8\epsilon_0}$ (3) $\frac{q}{\epsilon_0}$ (4) $\frac{q}{2\epsilon_0} 6a^2$

Scan or tap for the full solution



Q.4 A charge 'Q' is enclosed by a Gaussian spherical surface of radius 'R'. If the radius is doubled, then the outward electric flux will

[AIPMT 2011 (Prelims)]

- (1) increase four times (2) be reduced to half
(3) remain the same (4) be doubled

Scan or tap for the full solution



Q.5 A hollow cylinder has a charge 'q' coulomb within it. If ϕ is the electric flux in units of volt-metre associated with the curved surface 'B', the flux linked with the plane surface 'A' in units of V-m will be

[AIPMT 2007]



- (1) $\frac{q}{2\epsilon_0}$ (2) $\frac{\phi}{3}$
(3) $\frac{q}{\epsilon_0} - \phi$ (4) $\frac{1}{2} \left(\frac{q}{\epsilon_0} - \phi \right)$

Scan or tap for the full solution



Q.6 A charge 'q' is located at the centre of a cube. The electric flux through any face is

[AIPMT 2003]

- (1) $\frac{2\pi q}{6(4\pi\epsilon_0)}$ (2) $\frac{4\pi q}{6(4\pi\epsilon_0)}$
(3) $\frac{\pi q}{6(4\pi\epsilon_0)}$ (4) $\frac{q}{6(4\pi\epsilon_0)}$

Scan or tap for the full solution



Q.7 A charge 'Q' μC is placed at the centre of a cube, the flux coming out from each face will be

[AIPMT 2001]

- (1) $\frac{Q}{6\epsilon_0} \times 10^{-6}$ (2) $\frac{Q}{6\epsilon_0} \times 10^{-3}$
(3) $\frac{Q}{24\epsilon_0}$ (4) $\frac{Q}{8\epsilon_0}$

Scan or tap for the full solution



Q.8 A charge 'Q' is situated at the corner of a cube, the electric flux passed through all the six faces of the cube is

[AIPMT 2000]

- (1) $\frac{Q}{6\epsilon_0}$ (2) $\frac{Q}{8\epsilon_0}$ (3) $\frac{Q}{\epsilon_0}$ (4) $\frac{Q}{2\epsilon_0}$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8			
Ans.	4	1	2	3	4	2	1	2			