

JEE MAIN ELECTRIC CHARGES AND FIELDS — GAUSS'S LAW — PYQS

Max. Marks: 16

Questions: 4

Section A (MCQ) — 4 questions

- Q.1** Two point charges $8\ \mu\text{C}$ and $-2\ \mu\text{C}$ are located at $x = 2\ \text{cm}$ and $x = 4\ \text{cm}$, respectively on the x -axis. The ratio of electric flux due to these charges through two spheres of radii $3\ \text{cm}$ and $5\ \text{cm}$ with their centers at the origin is _____.

[JEE Main 2026 (Online) 2nd April Evening Shift]

- (1) $4 : 1$ (2) $3 : 4$ (3) $4 : 3$ (4) $4 : 5$

Scan or tap for the
full solution



- Q.2** The electrostatic potential in a charged spherical region of radius r varies as $V = ar^3 + b$, where a and b are constants. The total charge in the sphere of unit radius is $\alpha \times \pi\epsilon_0$. The value of α is _____.

[JEE Main 2026 (Online) 24th January Morning Shift]

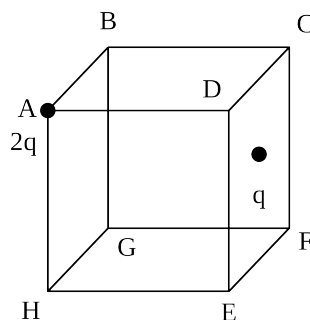
- (1) -12 (2) -8 (3) -9 (4) -6

Scan or tap for the
full solution



- Q.3** Two point charges $2q$ and q are placed at vertex A and centre of face CDEF of the cube as shown in figure. The electric flux passing through the cube is:

[JEE Main 2026 (Online) 23rd January Morning Shift]



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

Scan or tap for the
full solution



- Q.4** An infinitely long wire has uniform linear charge density $\lambda = 2\ \text{nC/m}$. The net flux through a Gaussian cube of side length $\sqrt{3}\ \text{cm}$, if the wire passes through any two corners of the cube, that are maximally displaced from each other, would be $x\ \text{N m}^2\ \text{C}^{-1}$, where x is:

[Neglect any edge effects and use $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9\ \text{SI units}$]

[JEE Main 2025 (Online) 8th April Evening Shift]

- (1) 6.48π (2) 0.72π (3) 1.44π (4) 2.16π

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ANSWER KEY

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