

PYQSide

JEE MAIN ELECTRIC CHARGES AND FIELDS — CONTINUOUS CHARGE DISTRIBUTIONS — PYQS

Max. Marks: 16

Questions: 4

Section A (MCQ)

- Q.1** A thin half ring of radius 35 cm is uniformly charged with a total charge of Q coulomb. If the magnitude of the electric field at centre of the half ring is 100 V/m, then the value of Q is _____ nC.
($\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2/\text{Nm}^2$ and $\pi = 3.14$)

[JEE Main 2026 (Online) 6th April Morning Shift]

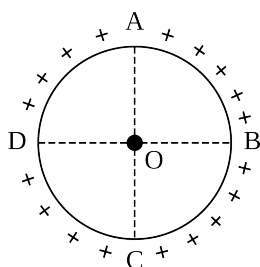
- (1) 2.14 (2) 2.44 (3) 3.25 (4) 0.7

Scan or tap for the
full solution



- Q.2** A metallic ring is uniformly charged as shown in figure. AC and BD are two mutually perpendicular diameters. Electric field due to arc AB at 'O' is 'E' in magnitude. What would be the magnitude of electric field at 'O' due to arc ABC ?

[JEE Main 2025 (Online) 4th April Evening Shift]



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

Scan or tap for the
full solution



- Q.3** Consider a circular loop that is uniformly charged and has a radius $a\sqrt{2}$. Find the position along the positive z-axis of the Cartesian coordinate system where the electric field is maximum if the ring was assumed to be placed in xy plane at the origin :

[JEE Main 2025 (Online) 2nd April Evening Shift]

- (1) a (2) $a/2$ (3) 0 (4) $a/\sqrt{2}$

Scan or tap for the
full solution

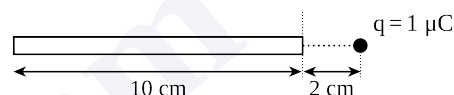


Section B (Numerical)

- Q.4** A point charge $q = 1 \mu\text{C}$ is located at a distance 2 cm from one end of a thin insulating wire of length 10 cm having a charge $Q = 24 \mu\text{C}$, distributed uniformly along its length, as shown in figure. Force between q and wire is _____ N.

(Use : $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ N m}^2/\text{C}^2$)

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



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full solution



ANSWER KEY

Section A (MCQ)

Ques.	1	2	3																
Ans.	1	4	1																

Section B (Numerical)

Ques.	4																		
Ans.	90																		