

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

Max. Marks: 12

Questions: 3

Section A (MCQ) — 2 questions

- Q.1** Two point charges $q_1 = 3 \mu\text{C}$ and $q_2 = -4 \mu\text{C}$ are placed at points $(2\hat{i} + 3\hat{j} + 3\hat{k})$ and $(\hat{i} + \hat{j} + \hat{k})$ respectively. Force on charge q_2 is _____ N. (Take $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9$ SI Units)

[JEE Main 2026 (Online) 8th April Evening Shift]

- (1) $(12\hat{i} + 24\hat{j} + 24\hat{k}) \times 10^{-3}$
 (2) $(4\hat{i} + 8\hat{j} + 8\hat{k}) \times 10^{-3}$
 (3) $(3\hat{i} + 6\hat{j} + 6\hat{k}) \times 10^{-3}$
 (4) $(-4\hat{i} - 8\hat{j} - 8\hat{k}) \times 10^{-3}$

Scan or tap for the
full solution

- Q.2** A small uncharged conducting sphere is placed in contact with an identical sphere but having 4×10^{-8} C charge and then removed to a distance such that the force of repulsion between them is 9×10^{-3} N. The distance between them is (Take $\frac{1}{4\pi\epsilon_0}$ as 9×10^9 in SI units)

[JEE Main 2025 (Online) 24th January Evening Shift]

- (1) 1 cm (2) 2 cm (3) 4 cm (4) 3 cm

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Section B (Numerical) — 1 question

- Q.3** A positive ion A and a negative ion B has charges 6.67×10^{-19} C and 9.6×10^{-10} C, and masses 19.2×10^{-27} kg and 9×10^{-27} kg respectively. At an instant, the ions are separated by a certain distance r . At that instant the ratio of the magnitudes of electrostatic force to gravitational force is $P \times 10^{-13}$, where the value of P is _____.
 (Take $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ Nm}^2\text{C}^{-2}$ and universal gravitational constant as $6.67 \times 10^{-11} \text{ Nm}^2 \text{ kg}^{-2}$)

[JEE Main 2025 (Online) 23rd January Morning Shift]

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ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2								
Ans.	2	2								

Section B (Numerical) — 1 question

Ques.	3				
Ans.	BONUS				