

JEE MAIN ATOMS — DISTANCE OF CLOSEST APPROACH AND IMPACT PARAMETER — PYQS

Max. Marks: 8
Questions: 2

Section A (MCQ) — 2 questions

- Q.1** A 7.9 MeV α -particle scatters from a target material of atomic number 79. From the given data the estimated diameter of nuclei of the target material is (approximately) _____ m.

$$\left[\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ N m}^2/\text{C}^2 \text{ and electron charge} \right. \\ \left. = 1.6 \times 10^{-19} \text{ C} \right]$$

[JEE Main 2026 (Online) 22nd January Morning Shift]

- (1) 2.88×10^{-14} (2) 5.76×10^{-14}
 (3) 1.44×10^{-13} (4) 1.69×10^{-12}

Scan or tap for the
full solution



- Q.2** If an alpha particle with energy 7.7 MeV is bombarded on a thin gold foil, the closest distance from nucleus it can reach is _____ m. (Atomic number of gold = 79 and $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9$ in SI units)

[JEE Main 2026 (Online) 21st January Morning Shift]

- (1) 2.95×10^{-16} (2) 3.85×10^{-14}
 (3) 2.95×10^{-14} (4) 3.85×10^{-16}

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2									
Ans.	2	3									