

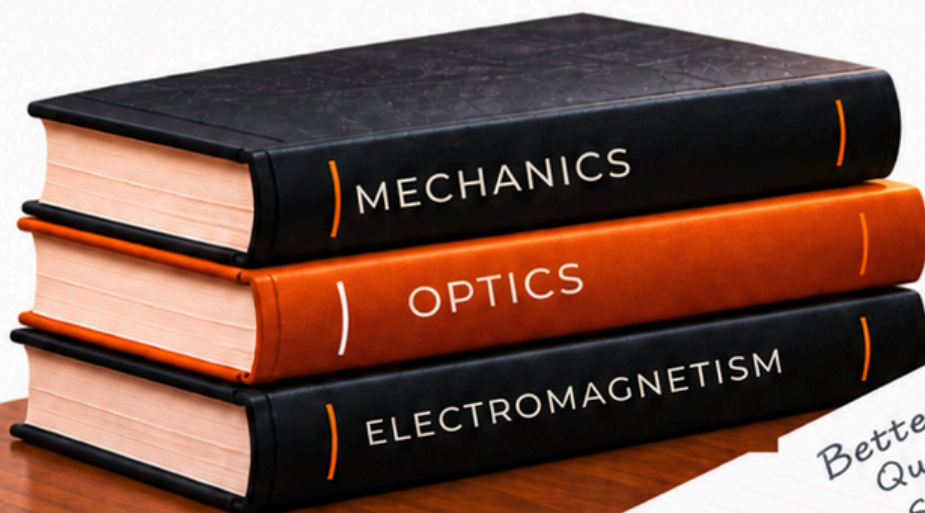
JEE Main Physics

Measurement of Length PYQ

$$F = ma$$



$$v = u + at$$



Better
Questions
Stronger
Concepts
Brighter Future

Subject: Physics

Years: 2024-2020

Total Questions: 4

About this PYQ collection

What is inside

A complete topic-wise set of **4 previous year questions** on **Measurement of Length** from **JEE Main (2024-2020)**, across **4 exam years**. **4 questions** are from 2019 onwards, so most of the set reflects the recent NTA pattern.

Questions are arranged to reduce unused page space, with newest-first priority and continuous numbering from 1. Each carries an exam date and shift tag to trace the original paper.

Topic-wise questions

TOPIC	QS	%
Measurement of length	4	100%

Question types

TYPE	QS	%
Single-correct MCQ	3	75%
Numerical value	1	25%

Numerical-value questions have no options; this question is from 2021 onwards.

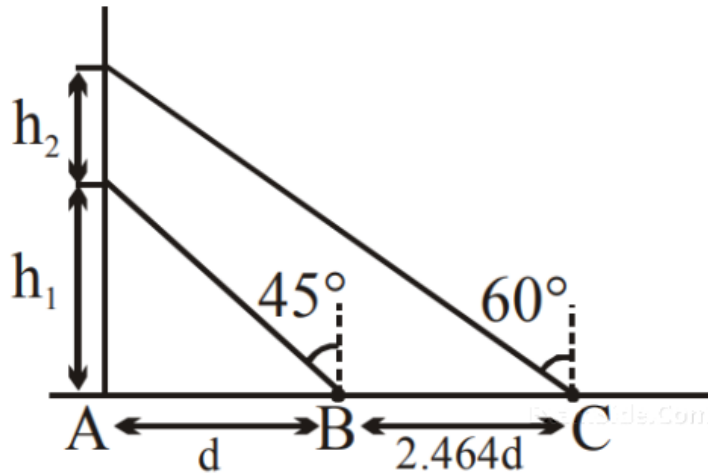
How these questions help you

- **Know where the marks are:** measurement of length make up **4 of 4 questions (about 100%)**.
- **Build speed and accuracy:** short, formula-driven questions ideal for quick practice.
- **Learn the patterns:** the same question styles return year after year.
- **Strengthen other chapters:** dimensions and error estimation are used across Physics.

Questions – Measurement of Length

1. Identify the physical quantity that cannot be measured using spherometer :
(27 Jan 2024 | Shift 1)
- (A) Radius of curvature of concave surface (B) Specific rotation of liquids
(C) Thickness of thin plates (D) Radius of curvature of convex surface
-
2. The distance of the Sun from earth is 1.5×10^{11} m and its angular diameter is (2000) s when observed from the earth. The diameter of the Sun will be :
(27 Jun 2022 | Shift 2)
- (A) 2.45×10^{10} m (B) 1.45×10^{10} m
(C) 1.45×10^9 m (D) 0.14×10^9 m
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3. Suppose you have taken a dilute solution of oleic acid in such a way that its concentration becomes 0.01 cm^3 of oleic acid per cm^3 of the solution. Then you make a thin film of this solution (monomolecular thickness) of area 4 cm^2 by considering 100 spherical drops of radius $\left(\frac{3}{40\pi}\right)^{\frac{1}{3}} \times 10^{-3}$ cm. Then the thickness of oleic acid layer will be $x \times 10^{-14}$ m. Where x is _____.
(17 Mar 2021 | Shift 2)

4. A balloon is moving up in air vertically above a point A on the ground. When it is at a height h_1 , a girl standing at a distanced (point B) from A (see figure) sees it at an angle 45° with respect to the vertical. When the balloon climbs up a further height h_2 , it is seen at an angle 60° with respect to the vertical if the girl moves further by a distance $2.464 d$ (point C). Then the height h_2 is (given $\tan 30^\circ = 0.5774$)



(5 Sept 2020 | Shift 1)

- (A) $0.464d$ (B) d
(C) $0.732d$ (D) $1.464d$