

NEET UNITS AND MEASUREMENTS — LEAST COUNT, VERNIER CALLIPERS AND SCREW GAUGE — PYQS

Max. Marks: 32

Questions: 8

Section A (MCQ) — 8 questions

Q.1 In a vernier callipers, 20 VSD coincide with 16 MSD (each division of length 1 mm). The least count of the vernier callipers is : [NEET (UG) 2026]

- (1) 0.2 cm (2) 0.1 cm (3) 0.02 cm (4) 0.01 cm

Scan or tap for the full solution



Q.2 One main scale division of a Vernier calliper is equal to 1 mm and the number of divisions on the Vernier scale is 10. When both the jaws touch each other, the Vernier scale shifts to the left of zero of the main scale in such a way that 4th Vernier division coincides with a division of the main scale. If this Vernier calliper measures the length of the wire to be 1 cm, the actual length of the wire is :

[RE-NEET (UG) 2026]

- (1) 1.04 cm (2) 0.60 cm (3) 0.96 cm (4) 1.00 cm

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Q.3 Consider the diameter of a spherical object being measured with the help of a Vernier callipers. Suppose its 10 Vernier Scale Divisions (V.S.D.) are equal to its 9 Main Scale Divisions (M.S.D.). The least division in the M.S. is 0.1 cm and the zero of V.S. is at $x = 0.1$ cm when the jaws of Vernier callipers are closed. If the main scale reading for the diameter is $M = 5$ cm and the number of coinciding vernier division is 8, the measured diameter after zero error correction, is

[NEET (UG) 2025]

- (1) 4.98 cm (2) 5.00 cm (3) 5.18 cm (4) 5.08 cm

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Q.4 In a vernier callipers, $(N + 1)$ divisions of vernier scale coincide with N divisions of main scale. If 1 MSD represents 0.1 mm, the vernier constant (in cm) is:

[NEET (UG) 2024]

- (1) $\frac{1}{10N}$ (2) $\frac{1}{100(N+1)}$
(3) $100N$ (4) $10(N+1)$

Scan or tap for the full solution



Q.5 The pitch of an error free screw gauge is 1 mm and there are 100 divisions on the circular scale. While measuring the diameter of a thick wire, the pitch scale reads 1 mm and 63rd division on the circular scale coincides with the reference line. The diameter of the wire is:

[RE-NEET (UG) 2024]

- (1) 1.63 cm (2) 0.163 cm
(3) 0.163 m (4) 1.63 m

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Q.6 A screw gauge gives the following readings when used to measure the diameter of a wire
Main scale reading : 0 mm
Circular scale reading : 52 divisions
Given that 1 mm on main scale corresponds to 100 divisions on the circular scale. The diameter of the wire from the above data is :

[NEET (UG) 2021]

- (1) 0.052 cm (2) 0.52 cm
(3) 0.026 cm (4) 0.26 cm

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Q.7 A screw gauge has least count of 0.01 mm and there are 50 divisions in its circular scale.
The pitch of the screw gauge is :

[NEET (UG) 2020]

- (1) 0.25 mm (2) 0.5 mm
(3) 1.0 mm (4) 0.01 mm

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Q.8 A student measured the diameter of a small steel ball using a screw gauge of least count 0.001 cm. The main scale reading is 5 mm and zero of circular scale division coincides with 25 divisions above the reference level. If screw gauge has a zero error of -0.004 cm, the correct diameter of the ball is

[NEET 2018]

- (1) 0.521 cm (2) 0.525 cm
(3) 0.053 cm (4) 0.529 cm

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8			
Ans.	3	—	1	2	2	1	2	4			