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Video Solution on Website:- https://physicsaholics.com/home/courseDetails/49

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Q 1. In a screw gauge, the main scale has divisions in millimeter and circular scale has 50 divisions. The least count of screw gauge is
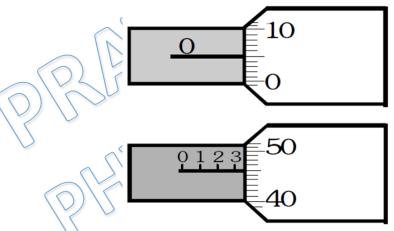(a) $2\mu m$
(b) $5\mu m$
(c) $20\mu m$
(d) $50\mu m$

Q 2. In a vernier calliper, N divisions of vernier scale coincide with (N – 1) divisions of main scale (in which 1 division represents 1mm). The least count of the instrument in cm should be:
(a) N
(b) $N - 1$
(c) $\frac{1}{10N}$
(d) $\frac{1}{N-1}$

Q 3. The circular scale of a micrometer has 200 divisions and pitch of main scale is 2mm. Find the measured value of thickness of a thin sheet.

(a) 3.41 mm
(b) 6.41 mm
(c) 3.46 mm
(d) 3.51 mm

Q 4. In a vernier callipers, one main scale division is x cm and n divisions of the vernier scale coincide with (n-1) divisions of the main scale. The least count (in cm) of the callipers is :-
(a) $\frac{n-1}{n}x$
(b) $\frac{n}{n-1}x$
(c) $\frac{x}{n}$
(d) $\frac{x}{n-1}$

Q 5. A screw gauge gives the following reading 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 of the circular scale.
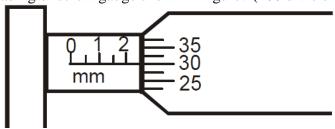The diameter of wire from the above data is :-
(a) 0.026 cm   (b) 0.005 cm
(c) 0.52 cm   (d) 0.052 cm

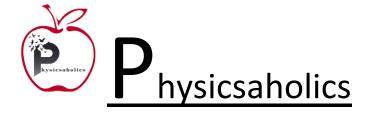Q 6.   What is the reading of screw gauge shown in figure? (100 divisions on circular scale)

(a) 2.30 mm   (b) 2.29 mm
(c) 2.36 mm   (d) 2.41 mm

Q 7.   A vernier callipers having 1 main scale division = 0.1 cm is designed to have a
least count of 0.02 cm. If n be the number of divisions on vernier scale and m be
the length of vernier scale, then
(a) n= 10, m = 0.5 cm   (b) n=9, m= 0.4 cm
(c) n=10, m = 0.8 cm   (d) n=10, m= 0.2 cm

Q 8.   In a vernier callipers, N divisions of the main scale coincide with N+m divisions of
the vernier scale. What is the value of m for which the instrument has minimum least
count?
(a) 1   (b) N
(c) Infinity   (d) $\frac{N}{2}$

Q 9.   A screw gauge advances by 3mm in 6 rotations. There are 50 divisions on circular
scale. Find least count of screw gauge:
(a) $0.002cm$ (b) $0.001cm$
(c) $0.01cm$ (d) $0.02cm$

Q 10. A student measured the diameter of a wire using a screw gauge with least count 0.001
cm and listed the measurements. The correct measurement is –
(a) 5.3 cm   (b) 5.32 cm   (c) 5.320 cm   (d) 5.3200 cm

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Answer Key

Q.1 c	Q.2 c	Q.3 b	Q.4 c	Q.5 d
Q.6 a	Q.7 c	Q.8 a	Q.9 b	Q.10 c