



Vernier calipers, 5 divisions of the Vernier scale coincide with 4 divisions on the main scale and in the screw gauge, one complete rotation of the circular scale moves it by two divisions on the linear scale. Then:

- a. If the pitch of the screw gauge is twice the least count of the Vernier calipers, the least count of the screw gauge is 0.01 mm.
- b. If the pitch of the screw gauge is twice the least count of the Vernier calipers, the least count of the screw gauge is 0.005 mm.
- c. If the least count of the linear scale of the screw gauge is twice the least count of the Vernier calipers, the least count of the screw gauge is 0.01 mm.
- d. If the least count of the linear scale of the screw gauge is twice the least count of the Vernier calipers, the least count of the screw gauge is 0.005 mm.

**Ans) c**

**Q6)** In a screw gauge, 5 complete rotations of the screw cause it to move a linear distance of 0.25 cm. There are 100 circular scale divisions. The thickness of a wire measured by this screw gauge gives a reading of 4 main scale divisions and 30 circular scale divisions. Assuming negligible zero error, the thickness of the wire is:

- a. 0.4300 cm
- b. 0.2150 cm
- c. 0.3150 cm
- d. 0.0430 cm

**Ans) 2**

**Q7)** The pitch of a screw gauge is 1mm and there are 100 divisions on the circular scale. While measuring the diameter of a wire, the linear scale reads 1 mm and 47<sup>th</sup> division on the circular scale coincides with the reference line. The length of the wire is 5.6 cm. find the curved surface area (in cm<sup>2</sup>) of the wire in appropriate number of significant figures.

- a. 2.4 cm<sup>2</sup>
- b. 2.56 cm<sup>2</sup>
- c. 2.6 cm<sup>2</sup>
- d. 2.8 cm<sup>2</sup>

**Ans) c**

**Q8)** Two full turns of the circular scale of gauge cover a distance of 1 mm on scale. The total number of divisions on circular scale is 50. Further, it is found that screw gauge has a zero error of -0.03 mm. while measuring the diameter of a thin wire a student notes the main scale as 35. The diameter of the wire is

- a. 3.32 mm
- b. 3.73 mm
- c. 3.67 mm
- d. 3.38 mm

**Ans) d**