$$\% \, error = \left| \frac{SV - OV}{SV} \right| \times 100\%$$

$$= \ldots \ldots \ldots$$

$$= \ldots \ldots \ldots \, \%$$

RESULT

The thickness of given test plate has been found to be …….. . Also, the volume and density of given plate has been found to be … …. … and … …. …. respectively.

CONCLUSIONS

The thickness of the given glass plate has been found by using spherometer. The area of the plate has been found by using graph paper. Also volume and density of the plate has been calculated with … … % error.

SOURCES OF ERROR
1. The thickness of test plate and base plate may not be unform.
2. The error could be due to the backlash error of the screw.
3. The divisions on the scales of the spherometer may not be uniform.
4. There may be error in counting of small boxes of graph paper.
5. Error could be due to the defect of vision and due to carelessness of the experimenter

PRECAUTIONS
1. The plates should be cleaned before use.
2. The screw should be rotated only in one direction to avoid backlash error.
3. Legs of spherometer should be properly touched.
4. Observations should be taken at different points on the test plate.

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Viva Voice/ Exercise
1. What do you mean by pitch of a spherometer?
2. What is the least count of spherometer? How do we find it?
3. How will the least count of spherometer change if number of divisions in circular scale is doubled?
4. In an experiment using a spherometer, why do we use base plate?
5. How can we increase the sensitivity of a spherometer?
6. What do we mean by backlash error is a spherometer?
7. A spherometer has its linear scale graduated in 2 divisions to a *mm* and the circular scale has 50 divisions. The circular scale moves through 1 division in each complete rotation. Calculate the pitch and least count.
8. In a spherometer, the screw has 20 divisions to a cm and the number of divisions on the circular scale is 100. The circular scale moves through 2 divisions in each complete rotation. Calculate the pitch and least count.

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