Date 20.12.2018

Expt. No. 3. Integrated Optics Angle of Prism Page No. 5

Apparatus Available :-

1. Spectrometer
2. Spirit level
3. Magnifying glass
4. Glass prism
5. Sodium vapour lamp

Objective :-

To determine the apex angle of given prism using a spectrometer

Calculation :-

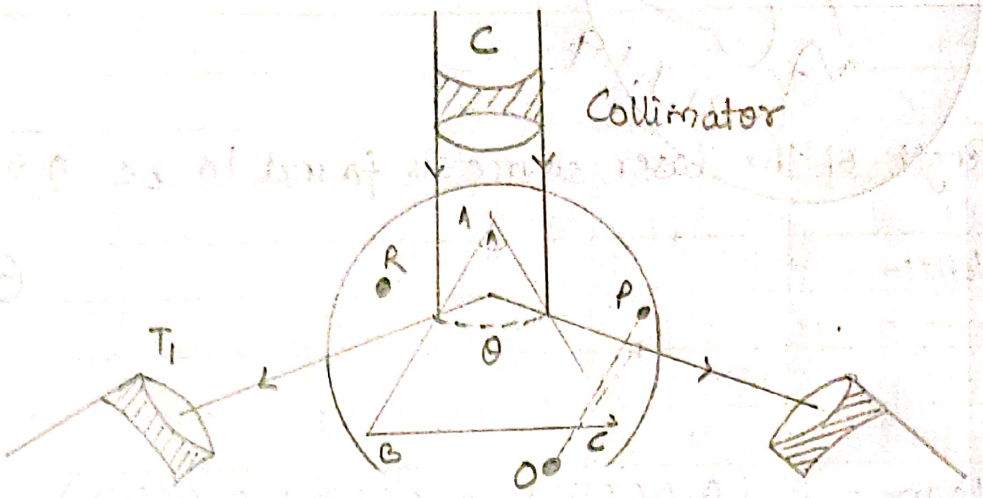
$$\text{Mean } \theta = \frac{119^\circ 51' + 119^\circ 49'}{2} = 119^\circ 50'$$

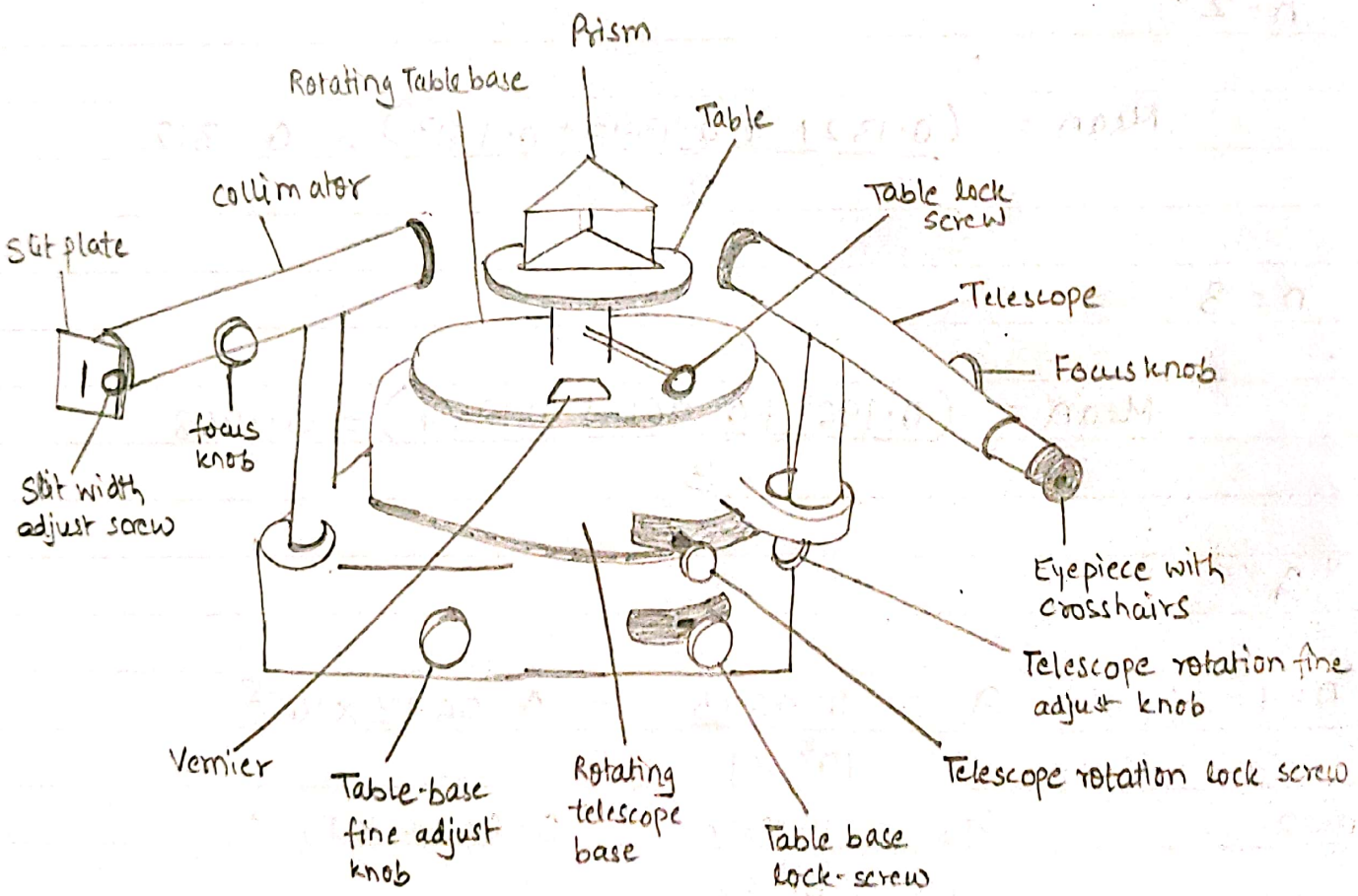
$$\text{Angle of prism} = \frac{\text{Mean } \theta}{2} =$$

$$\text{Mean } \theta = \frac{120^\circ 44' + 121^\circ 13'}{2} = 120^\circ 58'$$

$$\text{Angle of prism} = \frac{120^\circ 58'}{2} = 60^\circ 29'$$

Teacher's Signature : _____


C
Collimator
A
R
P
T_1
θ
B
O
C'


Prism
Rotating Table base
Table
Collimator
Table lock screw
Slit plate
Telescope
Focus knob
focus knob
Slit width adjust screw
Eyepiece with crosshairs
Telescope rotation fine adjust knob
Telescope rotation lock screw
Vernier
Table-base fine adjust knob
Rotating telescope base
Table base lock-screw

Reading of Reflected Ray	Vernier A			Vernier B		
	MSR	VSR	TOTAL	MSR	VSR	TOTAL
Reflection from side (a) AB	279°30'	7'	279°37'	99°	7'	99°7'
Reflection from side (b) AC	40° (+360°)	21'	400°21'	220°	20'	220°20'
Difference between a & b			120°44'			121°13'

20/12/18

Date _____

Expt. No. _____ Page No. 6

Result :-

The apex angle of the given equilateral prism is 60°29'

10/10

31.1.19

Teacher's Signature : _____