Time: 1 ½ hour

Answer ALL Questions

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a) Perform necessary initial settings of the spectrometer.

b) Determine the prism angle (A).

c) Measure the *angle of* minimum deviation (D) for the following three lines in the sodium spectrum.

d) Calculate the *refractive index of glass* for the three colours.

e) Plot a suitable graph and determine the Cauchy's constants A & B in the Cauchy's dispersion formula, $\mu = A + \dfrac{B}{\lambda^2}$

For prism, refractive index μ can be written as, $\mu = \dfrac{\sin\left(\frac{A+D}{2}\right)}{\sin\frac{A}{2}}$

Where: D - Angle of minimum deviation and A- Angle of prism

The wavelengths of the lines in the sodium spectrum are:

Red	6172 A°
Yellow	5893 A°
Green	5141 A°