

EASTERN UNIVERSITY, SRI LANKA

THIRD YEAR FIRST SEMESTER EXAMINATION IN SCIENCE - 2021/2022

(Sep/Oct - 2024)

PH 3051 General Physics Laboratory III

Time: 1 1/2 hour

Answer ALL Questions

- 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, $\mu = A + \frac{B}{\lambda^2}$

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

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

The wavelengths of the lines in the sodium spectrum are:

Red	6172 Å
Yellow	5893 Å
Green	5141 Å