Government College for women (Autonomous), Srikakulam.

Mid 2 Exam. Semester-III B.Sc Physics Hon

Maj /Minor, C5 Paper : OPTICS Date:27-11-2024

Marks:30M Time :2hours

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SECTION -A

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Answer the following **1x8=8**

1. Explain about wedge shaped air film with different cases?

OR

2. Explain the construction and working of Laurentz half-shade polarimeter and calculate specific rotation of using solution?

SECTION -B

Answer any three of the following **3x4=12**

1. Explain about half-wave and quarter wave plate?
2. Calculate the wavelength of monochromatic light using grating?
3. Explain and derive of Brewster's law?
4. Write shot note on Double refraction?
5. Explain the resolving power of grating?

SECTION -C

answers ALL of the following **5x2=10**

1.With a slab of flint glass ,the angle of refraction is 62°24'.then calculate the refractive index of the glass?

2.Calculate the thickness of half wave plate of Quartz to be used with sodium light of wavelength 5893°A an given $\mu_{o=} 1.544$ and $\mu_{e=} 1.553$.

3.If two spectral lines of

4.Two polarizing sheets have their polarizing directions parallel to that the intensity of the transmitted light is a maximum,Through what anglemust either sheet be turned so that the intensity become one-half the initial value?

5.If two spectral lines of wavelength 5890 angstroms and 5896 angstroms are to be seen just separated in the first order spectrum of a gratin