

1) Newton's rings are viewed by reflection of light of wavelength 6250 \AA . The diameter of the 10th dark ring is 0.50 cm . Calculate the radius of curvature of the lens.

2) In a typical Young's Experiment the following data were obtained:

(i) the distance between two sources of light $= 0.02 \text{ cm}$.

ii) the distance between two consecutive bright fringes $= 0.875 \text{ mm}$.

Calculate the wavelength of light.

3) A slit is situated at a distance of 9.0 cm from the Fresnel's biprism. Each angle of the biprism is 2° and the refractive index of the material of the prism is 1.5 . Calculate the fringe-width when the eyepiece is placed at a distance of 91 cm from the biprism and the wavelength of the light is 6280 \AA .

4) White light is reflected at normal incidence from a soap film has an interference maximum at 6000 \AA and minimum at 4500 \AA with no minimum in between.

If the index of refraction for the film is 1.33 , what is the film thickness?