Assignment for B.Sc. Programme Course

<u>Assignment</u>

What is the separation between the slits of Young's double slit experiment that gives second order maxima at a distance of 5 mm. from the central maxima. The screen is at a distance of 2 m from the slit and wavelength of light is 500 nm.

In a Newton's ring experiment, the diameter of the 15th ring was found to be 0.590 cm and that of 5th ring was 0. 336cm.If the radius of the Plano-convex lens is 100cm.Calculate the wavelength of light used.

In Michelson's interferometer 100 fringes cross the field of view when the movable mirror is displaced through 0.02948 mm. Calculate the wavelength of monochromatic light used.