

PHYSICS

Semester-2: Wave Optics

Learning outcomes

On successful completion of this course, the student will be able to:

- Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude.
- Distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating.
- Describe the construction and working of zone plate and make the comparison of zone plate with convex lens.
- Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity.
- Explain about the different aberrations in lenses and discuss the methods of minimizing them.
- Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields.
- Understand the basic principles of fibre optic communication and explore the field of Holography and Nonlinear optics and their applications.