

LASER EXPERIMENT KIT

With this kit 20 optics experiments on reflection, refraction, interference, diffraction, polarisation and laser characteristics can be carried out by students. The experiments which take several hours for setting can be done within a few minutes with He-Ne laser and Optical Components of this kit. The kit contains the following items.

List of Items

1.	Plane mirror	- 1 No	15.	Single Slit	- 1 No
2.	60° Prism	- 1 No	16.	Razor Blade	- 1 No
3.	Prism Table	- 1 No	17.	Double Pin hole	- 1 No
4.	Screen	- 1 No	18.	Single Pin hole	- 1 No
5.	Scale	- 1 No	19.	Circular aperture	- 1 No
6.	Protractor	- 1 No	20.	Thin wire	- 1 No
7.	Glass Slab	- 1 No	21.	Grating	- 1 No
8.	90° Prism	- 1 No	22.	Cross grating	- 1 No
9.	Double Slit	- 1 No	23.	Pair of Polarisers	- 1 No
10.	Plano Convex lens	- 1 No	24.	Strained glass plate	- 1 No
11.	Double Convex lens	- 1 No	25.	Fresnel Biprism	- 1 No
12.	Parallel glass flat	- 1 No	26.	Measuring Tape	- 1 No
13.	Mount	- 4 Nos	27.	Optical flat	- 1 No
14.	Mount Base	- 4 Nos	28.	Instruction manual	- 1 No

List of Experiments

1. To test the monochromaticity of laser light.
2. To measure the divergence of the laser beam.
3. To measure the divergence of the laser beam using a lens of known focal length.
4. To verify the laws of reflection.
5. To verify the laws of refraction and find out the refractive index of glass.
6. To demonstrate the total internal reflection with the help of a 90° Prism.
7. To demonstrate interference due to a double slit.
8. To produce interference fringes with a Fresnel Biprism.
9. To demonstrate fringe formation with a glass plate.
10. To demonstrate diffraction due to a single slit.
11. To demonstrate diffraction due to an edge.
12. To demonstrate diffraction due to a pair of circular apertures and to measure their separation.
13. To demonstrate the Fraunhofer diffraction pattern of a circular aperture.
14. To demonstrate diffraction due to a circular aperture.
15. To determine the diameter of a thin wire using the phenomenon of diffraction.
16. To determine the number of lines in a transmission grating.
17. To demonstrate diffraction due to a cross grating.
18. To demonstrate the transverse nature of laser light.
19. To detect strains in the glass.
20. To measure the Brewster's angle and hence the refractive index of glass.