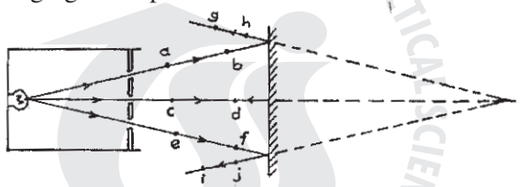
EXPERIMENTS WITH LIGHT

Light exhibits phenomena such as reflection, refraction, dispersion. This behavior of light can be visualized by using 'OPTIC KIT'

Assembly : Consists of Ray Box having an intense source of light and power supply (12 volt, 3 amp). Optical accessories like planoconvex lens, lenses, mirrors, acryllic slabs, prisms, slits, screen, metal platform etc. are part of the kit.

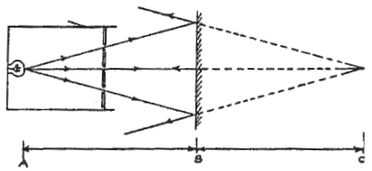
To do and observe : Place the given white metal platform in front of the ray box horizontally. Switch on the source of light using given power supply. Insert the black coloured plastic frame having 3 slits in the groove provided in the ray box. Now you will see diverging on the platform.



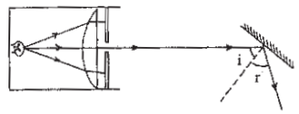
To trace the path of the light, spread a white paper on the metal platform. Place the given plane mirror in the path of the divergent rays as shown in the diagram. Now mark at-least 3 points on incident ray and reflected rays using the pencil as shown in the above diagram . Take out the paper and draw the lines joining the points as shown in the diagram. Same procedure is followed to trace path of light in every experiment which will help to obtain quantitative measurement.

To get parallel rays insert the given planoconvex lens in the raybox in between slit and source as shown in following diagrams

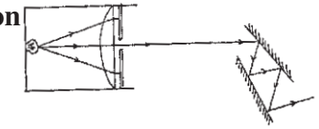
1. Reflection in plane mirror :



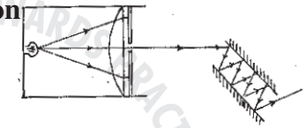
2. Laws of reflection



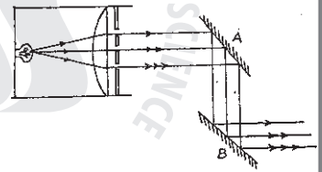
3. Multiple reflection -mirrors at an angle



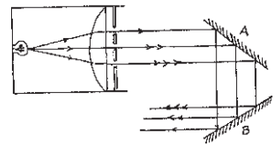
4. Multiple reflection - Parallel mirros



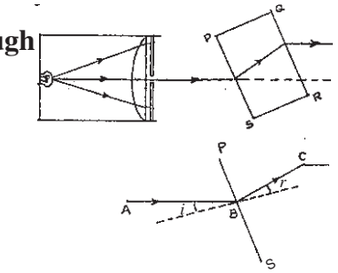
5. No inversion- (Principle of periscope)



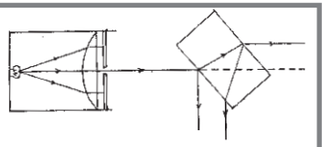
6. Lateral inversion



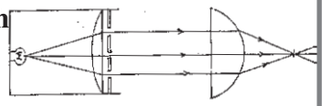
7. Reflection through rectangular block



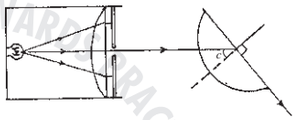
8. Refraction and reflection at plane surface



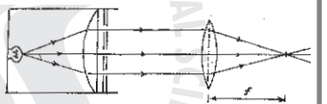
9. Refraction through semicircular block



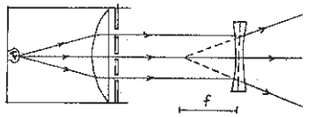
10. Critical angle



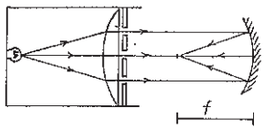
11. Focal length of convex lense



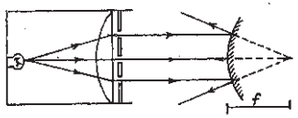
12. Focal length of concave lense



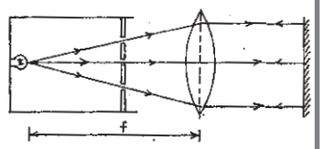
13. Focal length of concave mirror



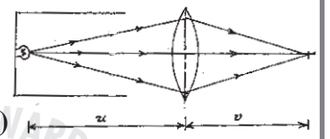
14. Focal length of convex mirror



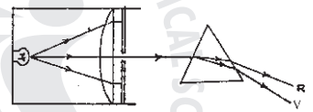
15. Focal length of the convex lense using plane mirror



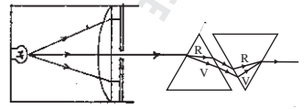
16. Focal of convex lense (Image and object distance method)



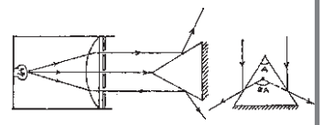
17. Dispersion



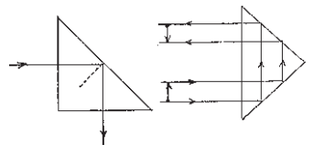
18. Combination of two prisms of same material produces white light



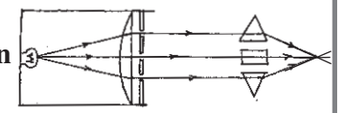
19. Angle of prism



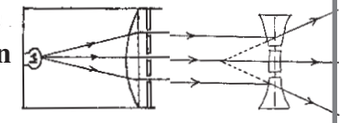
20. Total reflecting prism



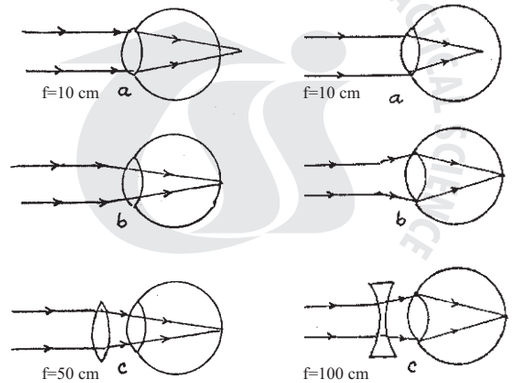
21. Convex lens as as a composition of prisms



22. Concave lens as as a composition of prisms

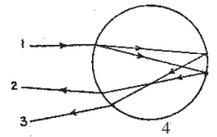


23. Eye defects and corrections



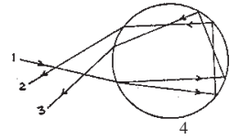
Hypermetropia **Myopia**

24. Rainbow formation :



Primary Rainbow

1. Light from source
2. Violet
3. Red
4 Water drop



Secondary Rainbow

1. Light from source
2. Red
3. Violet
4 Water drop

OPTIC KIT

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