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Practice Worksheet

Subject: Physics **Topic: Optics** **STD: XII**

Easy

1. What is the nature, size and position of the image formed by a concave mirror when object is placed between F and C?
2. Out of lenses of power +5D, +25Dand +50D 70 D, which of these will be used for microscope?
3. Which of the rainbow colors has maximum critical angle?
4. Draw a labeled showing the formation of image in a reflecting telescope?
5. A ray of light incident on an equilateral glass prism shows minimum deviation of 30^0. Calculate the speed of light through the glass prism?
6. How would the angular separation of interference fringes in Y.D.S.E. change when the distance of separation between the slits and screen is doubled?
7. Distinguish between diffraction and interference.

Average

8. A compound microscope with an objective of 2.0 cm focal length and an eyepiece of 4.0 cm focal length has a tube lengt5h of 40 cm.Calculate the magnifying power of the microscope, if the final image is formed at the near point of the eye.
9. Light of wavelength 500nm is incident on a single slit of width 0.50 mm at normal incidence .Calculate the separation between two dark bands on either side of the central maximum, if the diffraction pattern is observed on a screen placed at 2 m from the slit?
10. How would the angular separation of interference fringes in Y.D.S.E. change when the wavelength of source of light is increased.
11. A partially plane polarized beam of light is passed through a Polaroid .Show graphically the variation of transmitted light intensity with angle of rotation of the Polaroid?

Hot

12. A pin is placed 10 cm in front of focal length 20 cm made of material of refractive index 1.5 .The surface of the convex lens farther away from the pin is silvered and has a radius of curvature 22 cm. Determine the position of the final image. Is the image real or Virtual?
13. Two Plano concave lenses of glass of refractive index 1.5 each have radii of curvature 10 cm and 15 cm respectively. They are placed in contact with the curved surfaces towards each other and space between them is filled with a liquid of refractive index 1.6.What is the focal length of the combination?