VISWABHARATI - GUDIVADA

WORK SHEET-2

Chapters:

Class: X **Time: 1 ½ Hr**

Subject: Physics **Max.Marks: 50 M**

Name_____ Class/Sec: _____ Roll No: _____

5. Human eye and colourful world $\frac{1}{2}$ Mark:-

1. Write the relation between V, f, λ
2. During refraction of light the characters to light which does not change is ____
   A) wave length B) frequency C) Speed D) Colour
3. Red, Violet, Green, Blue arrange these from smaller to higher wavelength.
4. Least distance of distinct vision is _____
5. Match the following
   1) myopia [ ] a) convex lens
   2) Hypermetropia [ ] b) Bi-focal lens
   3) Presbyopia [ ] c) concave lens
   A) 1-c, 2-a, 3-b B) 1-b, 2-a, 3-c C) 1-c, 2-b, 3-a D) 1-b, 2-c, 3-a
6. Does eye lens form a real mage or virtual image?
7. The size of object is perceived by an I depends primarily on
   A) Actual size of object B) Distance of the object from the eye
   C) Aperture of pupil D) Size of image formed on retina
8. What is the reason for formation of Rainbow?
9. When the focal length of lens is 50cm then power of lens is?
10. The power of accommodation of normal eye is?
11. Which part of retina identify the colour?
12. Natural example of dispersion of light is?
13. When objects at different distances are seen by the eye which one remains constant?
14. What is the maximum and minimum focal lengths of eye lens?
15. The far point of a person is 5m in order that he has normal vision. What kind of spectacles should be used?
16. Eye lens adjusts its focal length according to distance of object. Which helps for this?
17. The colour which has maximum deviation in visible spectrum VIBGYOR?
18. The distance between the eye lens and retina is about?
19. The molecules which are the reason for the blue of the sky?
20. In a rainbow the angle between the incident and emergent ray for violet colour is?
21. When the atmosphere is absent around the earth the colour of the sky is _____
22. In a bi-focal lens, the upper and lower potion contains which lenses?
23. Actual shape of a rainbow is?
24. Some people can see only near objects. What type of visual defect they suffer from?
25. How will be the angles of incidence and emergence when the angle of deviation is minimum?

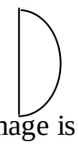
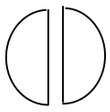
1 Mark:

1. Write the formula for focal length of a convex lens used to correct Hypermetropin?
2. Define scattering of light?
3. Why the pupil appears black?
4. What is the formula to find the refractive index of the prism?
5. Define presbyopia
6. What is meant by the accommodation of the eye lens?
7. What happens if the eye lens of a person can not accommodate its focal length more than 2.4 cm?
8. What is meant by a near point?
9. What is power of lens? Write their unit
10. What is the function of optic nerve in the eye?
11. How was the amount of light entered in to eye controlled?
12. What happens when the eye has a minimum focal length greater than 2.27 cm?

13. At sunrise or at sunset the sun appear to be reddish? Why?
14. Why does it take some time to see objects in cinema hall when we just enter the hall form bright sunlight?
15. What is persistence of lens?
16. Is the speed of light of each colour different?
17. What is the direction of rainbow formation?
18. A short sighted person may read a book without spectacles comment
19. What is the shape of i–d graph?
20. Mention the role of cornea in a human eye?

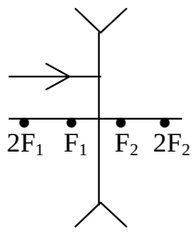
4. Refraction of light of curved surfaces

Objective Questions – $\frac{1}{2}$ Mark

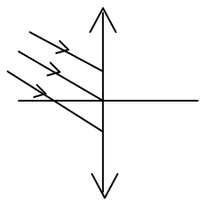
1. The focal length of lens _____ in water
2. How will the image formed by a convex lens be affered if the upper half of the lens wrapped with a black paper?
   A) The size of the image is reduced to one-half 
   B) The upper half of the image will be absent
   C) The brightness of the image is reduced
3. What is focus of a lens?
4. Give two uses of a convex lens?
5. What type of lens behaviour will an air bubble inside water show?
6. What happens if the ray passes through principal axis?
7. When do you get a virtual image with convex lens?
8. Name of the lens shown in the figure. 
9. The lens which always forms virtual image is ____
   A) concave B) convex C) Pleno-convex D) All the above
10. The minimum distance between an object and its real image formed by a convex lens is ____
    A) 2F B) $\frac{1}{2}$F C) 3F D) 4F
11. A person is standing on the bank of river. A fist inside water will see the person to be ___
    A) taller B) shorter C) original height D) depends on type of fish
12. A convex lens is cut as shown in figure. Then focal length of each half part is ____
    A) $\frac{f}{2}$ B) 2f C) f D) f/3 
13. Focal length of the plano-convex lens is _____When its radius of curvature of the surface is R and n is the refractive index of lens?
14. The distance between focus and optic centre is?
15. The line that joins the centre of curvature and the pole is?
16. What is the name of the lens which can form real and virtual images
17. If the focal length is positive then the lens is?
18. To establish the relation between u, v and f of a lens, the required apparatus are?
    A) lens B) V-stand C) Candle D) All
19. X: Real image can not be seen by eyes
    Y: Real image is captured on screen
    A) Both X and Y are true B) X is true and Y is wrong
    C) X is true and Y is wrong D) Both X and Y are wrong
20. Which lens is called diverging lens?
21. Can we measure the distance of virtual image?
22. How does it behaves when a convex lens is kept in a medium whose refractive index is less then that of the medium
23. What we call the centre of the lens?
24. What is important characteristics of a substance to make lens?
25. What is radius of curvature of a plane surface?

1 Mark:

1. Write the formula for formation of image by curved surfaces?
2. Define the word lens
3. Can a virtual image be photographed by a camera?
4. What is focal plane?
5. What are paraxial rays?
6. Draw the refracted ray given below diagram



7. If focal length of a lens is zero? If not why?
8. Ravi used a lens to burn a paper. What is that lets? What is the other name of it?
9. How will you decide whether a given piece of glass is a convex lens concave lens or a plane plate?
10. What are the symbols used to denoted bi-convex lens and bi-concave lens in a ray diagram?
11. In which position of object before on convex lens we get image at infinity? Why?
12. Complete the following ray diagram?



13. On what factors does the focal length of a lens depends?
14. If the radii of bi-convex surfaces are equal and refractive index is 1.5. Then find its focal length?
15. In which medium lens is placed. If lens makers formula is $\frac{1}{f} = (n-1)\left(\frac{1}{R_1} - \frac{1}{R_2}\right)$
16. When object placed at C_2 where the image formed?
17. Write the lens formula?
18. Where the object placed we get on image real and magnified?
19. Write relation between focal length and radius of curvature?
20. Raju placed an object at 10cm distance of a convex lens of focal length 10cm. Find the image formation of lens