

Instructions to Students: Read all the questions thoroughly and write down the answers.

This question paper contains a total of 4 parts. They are

- I. There will be 4 questions. Each question carries 4 marks. Answer all the questions.
- II. There will be 6 questions. Each question carries 2 marks. Answer all the questions.
- III. There will be 7 questions. Each question carries 1 mark. Answer all the questions.
- IV. There will be 10 multiple choice questions each question carries $\frac{1}{2}$ mark. Answer all the questions.

I. Answer all the questions. Each question carries 4 marks 4 x 4 = 16

1. Rainbow is an example of dispersion of sunlight." Justify this statement by explaining?
2. Explain the chemical reaction of Zinc with Dilute Hydrochloric Acid and write its Chemical reaction Equation?
3. A light ray with an angle of 40 degrees on one of the surfaces of the prism received a minimum deviation of 30 degree. Find the angle of refraction of the prism and the refractive index at the given plan
4. Write about Bohr's model of hydrogen atom and its limitations?

II. Answer all the questions. Each question carries 2 marks 6 x 2 = 12

5. What is an exothermic reaction and what is endothermic reaction?
6. What is meant by lens? What are the different types of lenses?
7. What are the rules of sign convention?
8. What are the properties of an image formed by a convex lens?
9. What is the absorption spectrum?
10. A biconvex lens of refractive index $n = 1.5$ is kept in air. The radii of curvature of two curved surfaces of a lens are $R_1 = 30$ cm, $R_2 = 60$ cm. What is the focal length of the lens?

III. Answer all the questions. Each question carries 1 mark 7 x 1 = 7

11. When an object is placed at the centre of curvature of a concave mirror the image is?
12. What are the notations of physical states in a chemical equation?
13. What is lens power?
14. Write any two uses of Chlorin Gas?
15. Write any 3 uses of concave mirrors in daily life?
16. Write Chemical name of Na_2SO_4 ?
17. What are Acid Base indicators?

IV. Answer all the questions. Each question carries $\frac{1}{2}$ mark 10 x $\frac{1}{2}$ = 5

18. Which alphabet indicates the pole of the centre of the curved surface?
A. P B. C C. A D. N
19. What is the nature of base?
A. Have a higher concentration than water B. Sour in taste C. have slippery nature D. None
20. The size of an object as perceived by an eye depends primarily on
A. actual size of the object B. distance of the object from the eye
C. aperture of the pupil D. size if the image formed on the retina
21. The point where the refracted ray intersects the principal axis in all cases is called
A. Pole B. Ray of curvature C. Principal Axis D. Focal point
22. Which of the following is a chemical reaction?
A. Change of milk to curd B. Breathing C. Burning of coal D. all
23. What is the nature of metallic oxides and metallic hydrides?

- A. Neutral Nature B. Alkaline nature C. Acidic nature D. None
24. What is the formula for refraction of light at plane surface
A. $n_1 / v = n_2 / u$ B. $v / n_1 = u / n_2$ C. $n_2 / v = n_1 / u$ D. $v / n_2 = u / n_1$
25. Which scientist gave an understanding of molecular structure and quantum theory?
A. Sommerfeld B. Newton C. Flank D. Bohr
26. What can be observed if the pH value of a solution increases from 7 to 14?
A. Decreasing the concentration of H_3O^+ ions in solution B. The concentration of OH^- ions in the solution is increased
C. Both are correct D. None
27. The defect of vision in which near objects can be seen clearly is called
A. Presbyopia B. Long vision C. Myopia Vision D. All are correct

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