

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 ½ mark. Answer all the questions.

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

1. Explain how convex and concave mirrors are used in daily life.
2. Do acids produce only ions in aqueous solution experiment?
3. How do you find focal length of a lens experimentally?
4. What are the different types of visual impairments? How do they form, explain through diagram? Explain how to rectify visual impairments by using lens.

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

5. Draw a ray diagram of the image formed by a concave mirror?
6. Write the uses of NaOH?
7. Derive the principle of refractive index of the prism.
8. What is the reason for the blue colour of sea water?
9. Draw a picture showing the order in which (n + l) values increase?
10. Which rule is violated in the electronic configuration  $1s^0 2s^2 2p^4$

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

11. Which type of image cannot be seen on a screen?
12. If a gas is released in a chemical reaction, it is denoted by which symbol?
13. What is the function of the human eye?
14. What are the two bases of Mendeleev's Periodic Table?
15. What is a molecule that absorbs sunlight and releases light in all directions with different fluorescence?
16. Write the full form of STP?
17. Why is plaster of Paris stored in air tight packs or dry places?

IV. Answer all the questions. Each question carries 1/2 mark 10 x 1/2 = 5

18. Find the focal length of a convex mirror whose radius of curvature is 30 cm.
  - a. 60 cm
  - b. 15 cm
  - c. 30 cm
  - d. 10 cm
19. What are the products of the electrolysis of brine?
  - a. Sodium hydroxide
  - b. Chlorine gas
  - c. Hydrogen
  - d. All the Above
20. Where should an object be placed in front of convex lens to get its virtual image?
  - a. in front of focal point
  - b. centre of curvature
  - c. centre of focus and focus point
  - d. Across centre of curvature
21. What is the unit of Planck's constant?
  - a. Joule/sec
  - b. joule-sec
  - c. joule/sec<sup>2</sup>
  - d. joule /Calorie
22. Who invented the modern version of the periodic table?
  - a. Mendeleev
  - b. Mosley
  - c. Dobereiner
  - d. Newlands
23. The splitting of white light into seven colours is known as \_\_\_\_\_.
  - a. scattering of light
  - b. Dispersion of light
  - c. reflection of light
  - d. refraction of light
24. Which gas converts lime water into milk?
  - a. O<sub>2</sub>
  - b. H<sub>2</sub>
  - c. CO<sub>2</sub>
  - d. N<sub>2</sub>
25. Which of the following is not Snell's law?
  - a.  $n_1 \sin i = n_2 \sin r$
  - b.  $n_1 \sin i$
  - c.  $\frac{\sin i}{\sin r} = \text{constant}$
  - d.  $\frac{\sin i}{\sin r} = \frac{n_1}{n_2}$
26. When the bee is bitten, what is the acid released from the skin?

a. Methanoic acid   B. Tartaric acid   C. Hydrochloric acid   D. Citric acid

27. Determine the refractive index of benzene if the critical angle is  $42^\circ$

a. 1.33      b. 1.63      c. 2.42      d. 1.51

Pravinnya  
Nurturing Talent

ప్రౌఢ విద్య  
పత్తిభూ వికాసం