

**Model paper-2**  
**SUMMATIVE ASSESSMENT-I**  
**PHYSICAL SCIENCE – PAPER-1**

(English medium)

**Class: X**

**( Max. Marks: 50)**

**Time: 2.45 Hrs.**

**Instructions:**

1. There are four sections and 33 questions in the paper.
2. Answers should be written in a given answer booklet.
3. There is internal choice in Section- IV
4. Write all the questions visible & legibly.
5. 15 minutes are given for reading the question paper and 2.30 hours given for answering questions

**Section-I**

**Note:- 1. Answer all the questions**

**2. Each question carries 1/2 mark**

**12x1/2=6**

1. Where do we place an object in front of convex lens in order to get virtual, erect and magnified image ?
2. Write the relation between C.G.S unit of heat and S.I unit of heat
3. Who am I.  
I am a compound of Calcium and can be used for disinfecting drinking water as well as for decolourisation.
4. What is the value of Planck's constant
5. Assertion (A): A person standing on the land appears taller than his actual height to a fish inside a pond  
Reason (R): Light bends away from the normal as it enters air from water  
Which of the following is correct?
  - a) Both A and R are true and R is the correct explanation of A
  - b) Both A and R are true and R is not the correct explanation of A
  - c) A is true but R is false
  - d) A is false but R is true
6. If initial temperatures of the two samples of masses  $m_1$  and  $m_2$  be  $T_1$  and  $T_2$ , then what is the final temperature of the mixture (T) is
7. Write the chemical formula of Plaster of Paris
8. What is distance between eye lens to retina?
9. Match the following

<b>Column-1</b>	<b>Column-2</b>
a) Speed of light in vacuum	x) $24.4^\circ$
b) Critical angle of Diamond	y) $3 \times 10^8$ m/s
c) SI unit of refractive index	z) no units
10. Optical Fibre Cable (OFC) are Oftenly used in tele-communications. What is the working principle behind OFC
11. How do you correct the defect Presbyopia ?
12. What is the angle of refraction at critical angle of incidence ?

## Section-II

**Note:- 1. Answer all the questions**

**2. Each question carries 1 mark**

**8X1=8**

13. Define Evaporation
14. Anu: The configuration of Cr is  $[\text{Ar}] 4s^2 3d^4$   
Arjun: The configuration of Cr is  $[\text{Ar}] 4s^1 3d^5$ . Whom do you support. Why?
15. Why is difficult to shoot a fish swimming in water?
16. What is the distance between object and image, when object is kept in the front of convex lens at centre of curvature
17. What do you mean by 'accommodation of eye lens'
18. What happens when an acid or base is mixed with water ?
19. Arrange the correct order in the process of formation of rainbow  
Refraction, Refraction, Dispersion, Reflection
20. The lower half of a convex lens is blacked. What would be the nature of the image

## Section-III

**Note:- 1. Answer all the questions**

**2. Each question carries 2 marks**

**8X2=16**

21. Write the formula of Refractive index of the prism. Explain terms in it?
22. Your friend is asked to differentiate between Dew and Fog. What questions could you ask to make him to know the differentiate between Dew and Fog?
23. Fill the following table

S.No	Solution	Red litmus paper	Blue litmus paper	Phenolphthalein solution	Methyl orange solution
1	HCl				
2	KOH				

24. Bhagavathi conduct an experiment of vertical shift of glass slab, her find the values of thickness and vertical shift of glass slab are 3cm and 1cm respectively. What is the refractive index of glass slab
25. A double convex lens has two surfaces of equal radii 'R' and refractive index  $n=1.5$  Find the focal length
26. Why do stars appears twinkling ?
27. Write any two differences between Heat and Temperature
28. Why Sun appear red during sunrise and sunset?

## Section-IV

**Note:- 1. Answer all the questions**

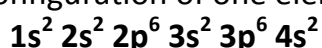
**2. Each question carries 4 marks**

**5X4=20**

29. Calculate required heat energy to change 10 g of ice at  $-10^{\circ}\text{C}$  into water vapour at  $100^{\circ}\text{C}$   
**(OR)**

How do you verify experimentally that  $\sin i / \sin r$  is a constant

30. Given electronic configuration of one element in the below. Read and write the asking questions

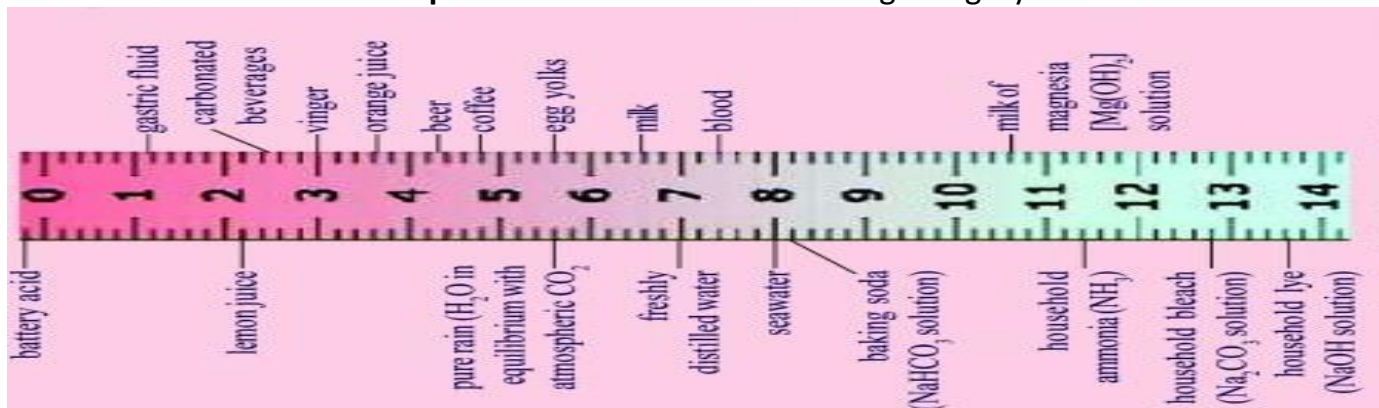


- a) What is the name of element?
- b) How many electrons are present in L-shell ?

- c) What is the  $(n+l)$  value of  $3p$  orbital ?  
 d) In which orbital the next electron enters ?

(OR)

Observe the solutions on the  $p^H$  scale. Classified into following category



- a) Strongly acidic solutions  
 b) Strongly alkaline solutions  
 c) Weakly acidic solutions  
 d) Weakly alkaline solutions

31. Explain two activities for the formation of artificial rainbow.

(OR)

How do you verify experimentally that focal length of a convex lens is increased when it is kept in water

32. How do you verify that Hydrogen gas evolved when acid reacts with metals? How do you test the gas?

(OR)

Explain Aufbau principle with an example

33. Draw the ray diagrams for concave lens when the object is a) At infinity b) Between infinity and optic centre of the lens and mention the nature of the image formed

(OR)

Draw the shapes of orbitals with  $l=2$

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