PHYSICAL SCIENCES **2022-2023** **CLASS-10**

MODEL PAPER

for

SUMMATIVE ASSESSMENT - 1

JANUARY – 2023

Name:…… Section:…… Roll No:…….. Max.Marks:50

I. (i) Answer the following questions.

(ii) Each carries 1 mark. **6x1=6M**

1. Matching :

P	Q
(i) Specific heat	(a) joule
(ii) Latent heat	(b) cal/g
(iii) Heat	(c) cal/g-^oC

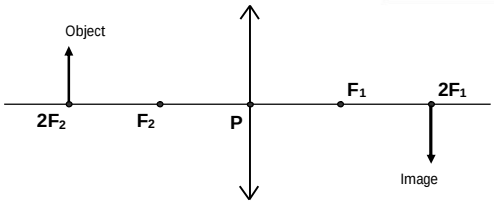
Choose the correct answer: [ ]

A. (i) – c, (ii) – a, (iii) – b B. (i) – b, (ii) – c, (iii) – a

C. (i) – c, (ii) – b, (iii) – a D. (i) – a, (ii) – b, (iii) – c

2. What is the chemical name of Plaster of Paris? Write its formula.

3. Complete the following ray diagram.



4. If there is no air present around the Earth, what would be the colour of the sky? Imagine.

5. What is the use of nl^x method?

6. Observe the following table.

Principal energy level	Maximum number of electrons
K (n=1)	$2(1)^2 = 2$
L (n=2)	$2(2)^2 = 8$
M (n=3)	$2(3)^2 = 18$

(i) Write the formula for finding maximum number of electrons to be accommodated in n^{th} shell?

(ii) What is the maximum number of electrons to be accommodated in N-shell?

II. (i) Answer the following questions.

(ii) Each carries two marks. **4x2 = 8M**

7. Observe the following table.

Substance	A	B	C	D	E	F	G
pH value	2.2	8	7.4	7	12	4.8	3.6

Answer the following questions from the table.

(i) Which of the given substances is a neutral?

(ii) Which of the given substances is a strong acid?

(iii) Which of the given substances is a weak base?

(iv) Which can be used as antacid?

8. A man wants to get a picture of a dalmatian dog. He photographed a white dog after fitting a glass, with black dots on to the lens of his camera. What photo will he get? Explain.

9. Write the lens maker's formula if surrounding medium is air and explain the terms in it.

10. Imagine the four quantum numbers of the differentiating electron in Carbon. (C-$1s^2$ $2s^2$ $2p^2$)

n	l	m_l	m_s

III. (i) Answer the following questions.

(ii) Each carries four marks. **3x4 =12M**

11. Refractive indices of some material are given in the following table.

Material	Refractive index (n)
Water	1.33
Benzene	1.50
Ice	1.31
Diamond	2.42

Answer the following questions by using the information given in the table.

(i) In which of the above material, the speed of light is less?

(ii) Which of the above is a rarer medium? Why?

(iii) In the formula of refractive index : $n = \frac{c}{v}$, What is c' ? What is it's value?

(iv) Find the speed of light in Benzene.

12. Where do we use the lenses in our daily life? Write any four situations.

13. Draw the shapes of any four d-orbitals.

IV. (i) Answer the following questions.

(ii) Each carries eight marks. **3x8 =24M**

14. Explain the formation of mirage?

(OR)

What is Hypermetropia? Explain the correction of the eye defect Hypermetropia.

15. Write the properties of acids and bases. (Any four properties for each)

(OR)

Explain the significance of three Quantum numbers in predicting the positions of an electron in an atom.

16. Explain the procedure of finding specific heat of a solid experimentally.

(OR)

Compounds such as alcohols and glucose contain hydrogen but are not categorized as acids. Describe the procedure of an activity to prove it.