

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. In what cases does a light ray not deviate at the interface of two media?
2. Write the Lens formula and explain the terms in it.
3. Imagine the consequences if Human eye has no accommodation property.
4. Plaster of Paris should be stored in moisture-proof container. Why?
5. Observe the following table:

| | | |
|------|---------------|-----------------|
| | Methyl Orange | Phenolphthalein |
| Acid | Red | No colour |
| Base | Yellow | Pink |

Now answer the following questions.

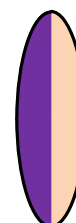
- (i) What is colour of Methyl orange in Sulphuric acid?
 - (ii) What is the colour of Phenolphthalein in Sodium hydroxide solution?
6. Draw the shape of any one p- orbital.

II. (i) Answer the following questions.

(ii) Each carries two marks.

4x2 = 8M

7. A convex lens is made up of two different materials as shown in the figure.
How many of images does it form?



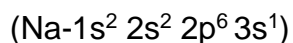
8. The focal length of a converging lens is 20cm. An object is 60cm from the lens. Where will the image be formed. Calculate.

9. Observe the following table.

| Name of the orbit | Names of sub shells | Number of orbitals | Number of electrons |
|-------------------|---------------------|--------------------|---------------------|
| M | s | 1 | 2 |
| | p | 3 | 6 |
| | d | 5 | 10 |

Answer the following:

- What is the “n” value for orbit “M”?
 - What is the maximum number of electrons to be accommodated in each of the d- orbital?
 - What is the total number of sub shells in the orbit “M”?
 - What is the total number of orbitals in the orbit “M”?
10. Imagine the four quantum numbers of the differentiating electron in Sodium.



| n | l | m_l | m_s |
|---|---|-------|-------|
| | | | |

III. (i) Answer the following questions.

(ii) Each carries four marks.

3x4 =12M

11. Answer the following questions by using the data given in the table.

| Substance | Specific Heat (cal/g-°C) |
|-----------|--------------------------|
| Lead | 0.031 |
| Aluminium | 0.21 |
| Water | 1.00 |
| Iron | 0.115 |

- Write S.I. units for Specific Heat?
 - Based on Specific Heat values, arrange the substances given in the table in ascending order.
 - If we supply same quantity of heat, which substance will heat up faster?
 - What is the amount of heat required to raise the temperature of 1g of Iron through 1°C.
12. Draw ray diagrams for the following positions and explain the nature and position of image.
- Object is placed at $2F_2$
 - Object is placed between F_2 and Optic centre P.
13. What is the use of knowing quantum numbers?

IV. (i) Answer the following questions.

(ii) Each carries eight marks.

3x8 =24M

14. Write the differences between evaporation and boiling.

(OR)

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

15. Answer the following questions.

(i) What is Neutralisation reaction? Give one example.

(ii) What is Dilution of an acid? Which type of chemical process it is?

(iii) What are Olfactory indicators? Give two examples.

(iv) Write the pH range of acids and bases.

(OR)

Write the main points in Bohr's model of atom. Write its limitations.

16. How do you verify experimentally that $\frac{\sin i}{\sin r}$ is a constant?

(OR)

Describe the procedure of an activity to observe the water of crystallization.

