

Revision questions

Class: X

Subject: Physical Science

Long answer questions

Ch-1. Reflection of light at curved surfaces.

Q.1. State the differences between convex and concave mirrors.

Q.2. Distinguish between real and virtual images.

Q.3. The magnification of the image formed by the spherical mirror is $m = -1.25$. Based on this information answer the following questions.

- i) Which kind of the mirror forms such image.
- ii) Write the characteristics of the image.
- iii) If the size of the object is 2cm. Then what is the size of the image.
- iv) Write the position of the object on the principal axis.

Q.4. A student conducted an experiment to observe characteristics of image formed by spherical mirrors and recorded his observations as follows. Observe the table and answer the questions.

S.No.	Position of the object	Position of the image	Enlarged/ Diminished	Erect/ Inverted	Real/ Virtual
1.	Between 'P' and F	in the mirror	Enlarged	Erect	Virtual
2.	Between "F", "C"	beyond "C"	Enlarged	Inverted	Real
3.	on "C"	on "C"	Same size	Inverted	Real
4.	Beyond "C"	between "F", "C"	diminished	Inverted	Real

- i) Above said information belongs to which spherical mirror?
- ii) In which situation magnification is less than 1?
- iii) An object of height placed at centre of curvature on principal axis, then where do you get the image and what is its height?
- iv) "All real images are inverted" justify the statement by using above table.

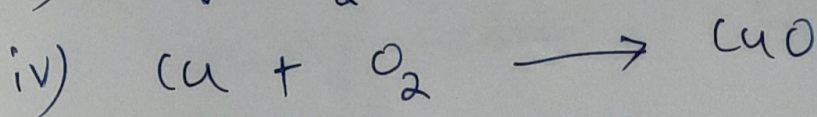
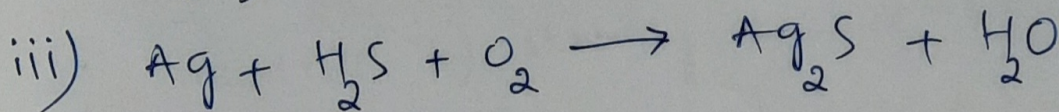
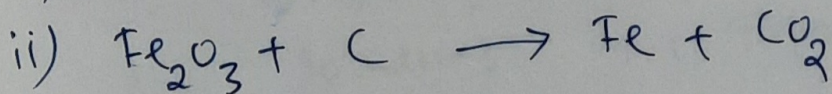
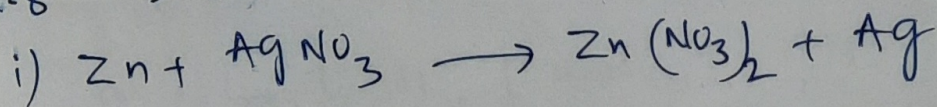
Q.5. The radius of curvature of a concave mirror is 6cm. Draw the ray diagram for an object placed on the principal axis at 8cm and 4cm distance from the pole of the mirror.

Chapter-2 Chemical Equations.

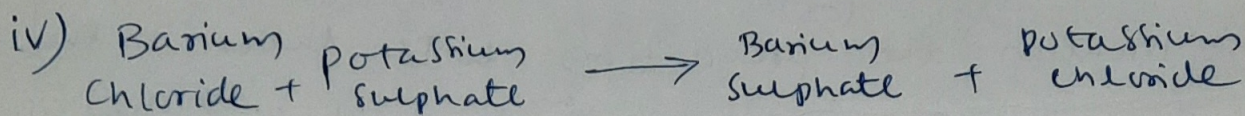
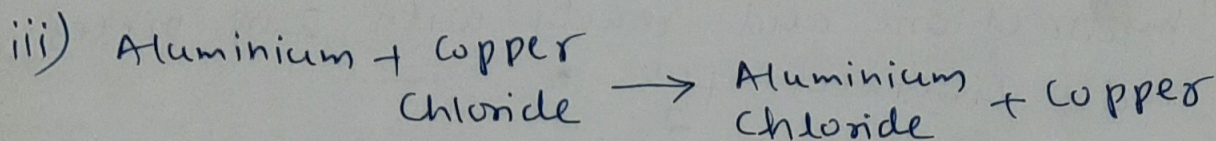
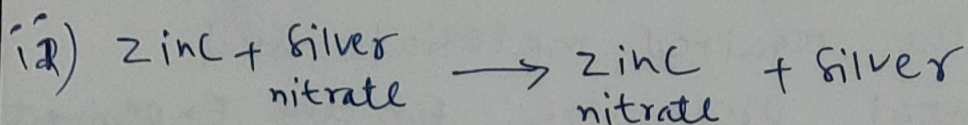
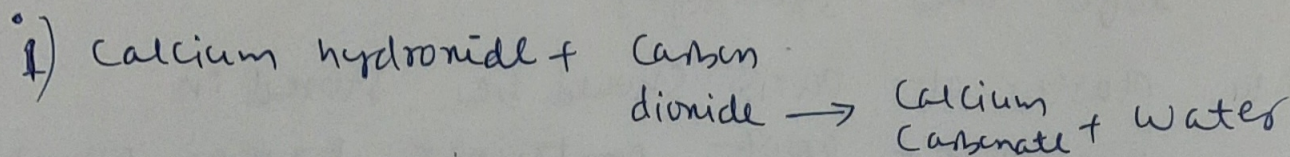
Q.6. You have brushed the wall with an aqueous suspension of $\text{Ca}(\text{OH})_2$. After two days the wall turned in white colour. Write the balanced chemical equations for the above changes using the appropriate symbols and formulae.

Q.7. Why should we balance a chemical equation?

Q.8. Balance the following chemical equations



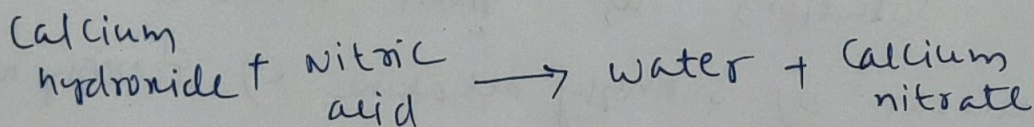
Q.9. Write the balanced chemical equations for the following reactions:



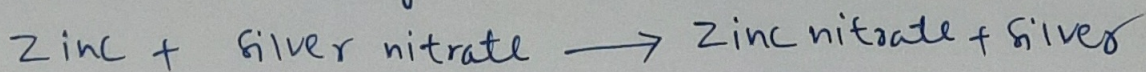
Q.10. How many grams of O_2 is required for combustion of 480 grams of Mg ?

Find the mass of ' MgO ' formed in this reaction ($Mg = 24u$, $O = 16u$).

Q.11. Balance the following chemical equation after writing the symbolic representation.



Q.12. Write the balanced chemical equation for the following reaction.



Chapter-3 Acids, Bases and Salts

- Q.13. How does baking powder make the cake soft and spongy?
- Q.14. Plaster of Paris should be stored in moisture-proof container. Explain why?
- Q.15. Write the required material and experimental procedure for the experiment "hydrochloric acid reacts with Zn pieces and liberates H_2 ".

Q.16. (or) Mention the precautions to be taken in the experiment to show that hydrogen gas is evolved when metals react with acids. Mention the experimental procedure.

- Q.16. Five solutions A, B, C, D and E when tested with universal indicator showed pH as 4, 1, 11, 7 and 9 respectively, classify the solutions as given below.
- a) neutral b) strongly alkaline c) strongly acidic
d) weakly acidic e) weakly alkaline.

Q.17

Sample Solution	milk	Gastric juice	Distilled water	NaOH Solution	milk of magnesia	washing soda
pH value	6.8	1.2	7	14	10.5	12.6

Answer the following questions by using above information.

- i) which of the above is neutral solution?
- ii) which of the above is used to neutralize the acidity in stomach?
- iii) which is the strong acid among the above solutions?
- iv) what is colour of phenolphthalein indicator in NaOH solution?

Q.18. List out the material for the experiment to investigate whether all compounds containing hydrogen are acids or not and write experimental procedure.

Q.19. How to test the strength of an acid or base?

Q.20. List out the materials for the experiment when hydrochloric acid reacts with AlHCO_3 and evolves CO_2 write the experiment procedure.

Q.21. In the following table nature of some solutions are given.

model solution	NaOH	saliva	sea water	HCl	NaCl	pure water	Acetic acid	blood
pH value	13	6	8	1	7	7	6	7.4

Answer the following questions

- write the acids and bases.
- In which of the above two material react to get neutralization reaction.
- mention the strong acids and weak bases from the above table.
- mention the nature of the product when NaOH reacts with acetic acid?