

CHEMISTRY (XII) CHAPTER 03 (Group IIIA and IVA Elements)

Short Questions:

1. What is boric acid? Give its uses.
2. Why carbon behaves differently from other members of its group?
3. How weathering phenomenon converts potassium feldspar into clay?
4. Give uses of lead sub oxide.
5. Show that H_3BO_3 is a monobasic acid.
6. How Al finds its uses in metallurgy and photoflash bulbs?
7. Why CO_2 is a gas while SiO_2 is a solid at room temperature?
8. Borate glazes are better than silicate glazes. Explain.
9. Write two principle uses of Borax?

OR

Write four uses of Borax?

10. How Boron differs from members of its family?
11. Write down formulas of Bauxite and corundum.
12. What is chemistry of Borax bead test?
13. How will you convert boric acid into borax and vice versa?
14. Write four uses of sodium silicate.
15. Write the reactions of boric acid with **i.** Ethyl alcohol **ii.** NaOH
16. What is meant by chemical garden?
17. Give the formulae of four boric acids.
18. What is the action of heat on orthoboric acid?
19. Why aqueous solution of borax is alkaline?
20. Explain structure of CO_2 .
21. How aqueous solution of Borax is alkaline?
22. Give two similarities between carbon and silicon.
23. Why liquid silicones are preferred over ordinary organic lubricants?
24. Write down chemical formulae of colemanite and bauxite.
25. Write any four uses of Aluminium.
26. What is vitreous silica? Give its two uses.
27. Write two reactions for the preparation of Borax.
28. Define semiconductor. Write its properties.

CHEMISTRY (XII) CHAPTER 04 (Group VA and VIA Elements)

Short Questions:

1. Justify that conc. H_2SO_4 is a dehydrating agent.
2. Name three allotropic forms of phosphorus.
3. How does aqua regia dissolve gold?
4. How NO_2 is prepared from:
 - a. Lead nitrate
 - b. $Cu + HNO_3$
5. How does HNO_2 act as reducing agent?
6. How does P_2O_5 react with water in cold and hot state?
7. Why SO_3 is dissolved in sulphuric acid and not in water?
8. Give two reactions which show oxidizing behaviour of NO.
9. Give two methods for the preparation of PCl_3 .
10. Write two points of dissimilarities of oxygen and sulphur.
11. Why the elements of VIA other than oxygen show more than two oxidation states?
12. Give the names of four elements which do not react with nitric acid.
13. Explain the structure of HNO_2 and HNO_3 .
14. P_2O_5 is powerful dehydrating agent. Give two examples.
15. Write any four uses of Nitric acid.
16. What happens when NO_2 is dissolved in water?

17. Write two reactions of preparation of nitrous acid.
18. What is the action of heat on orthophosphoric acid? Write chemical equation also.
19. Write any four properties of sulphuric acid.
20. NO_2 is a strong oxidizing agent. Prove with the help of two examples.
21. Give two reactions of sulphuric acid which show its oxidizing behaviour.
22. Give four dissimilarities of oxygen and sulphur.
23. What is aqua regia?
24. Justify that sulphuric acid is king of chemicals.
25. Justify that NO acts as an oxidizing agent?
26. How does HNO_2 act as reducing agent?
27. Write down two chemical reactions which show that sulphuric acid is a dehydrating agent?
28. Complete and balance the following chemical equation.
 $\text{KMnO}_4 + \text{FeSO}_4 + \text{H}_2\text{SO}_4 \rightarrow$