

Chemistry - 12th Class Chemistry Chapter 4 Short Questions Preparation

Q1. Give definition of allotropy. Write allotropes of phosphorus.

Ans 1: Definition: When an element exists in different crystalline forms. These crystalline forms are called allotropic forms and this phenomenon is called allotropy.

Ans 2: Allotropic forms of phosphorus: Phosphorus can exist in at least six different solid allotropic forms. But here mentioned only three.

Ans 3: i) Write phosphorus (P_4)
 ii) Red phosphorus (macromolecule of P_4)
 iii) Black phosphorus (high temperature heating of red P)

Q2. Why Dinitrogen Oxide is called Laughing gas?

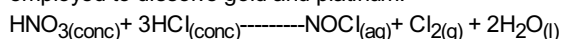
Ans 1: Its mixture with a little oxygen, if inhaled for a sufficiently long time, produces hysterical laughter, hence it is also known as laughing gas.

Q3. Give name and formulas of Oxyacids of Phosphorus.

Ans 1: Name Formula
 Phosphoric acid H_3PO_3
 Orthophosphoric acid H_3PO_4
 Pyrophosphoric acid $H_4P_2O_7$
 Metaphosphoric acid HPO_3

Q4. What is aqua-regia?

Ans 1: When one volume of concentrated HNO_3 is mixed with three volume of concentrated HCl , aqua regia is formed. It is employed to dissolve gold and platinum.



Q5. Justify that H_2SO_4 is a king of chemicals?

Ans 1: H_2SO_4 has many applications in daily life, laboratories, industries etc. What's common to petrol, fertilizers, cars and soap? They, like a lot of other things require sulfuric acid to be made. That's why sulfuric acid is called the king of chemicals.

Q6. Write any four uses of nitric acid?

Ans 1: i) It is used as laboratory reagent.

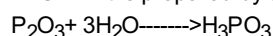
Ans 2: ii) It is used in manufacturing of explosives.

Ans 3: iii) It is used in manufacturing of nitrogen fertilizers.

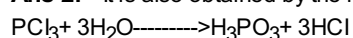
Ans 4: iv) It is used to make varnishes and organic dyes.

Q7. How H_3PO_4 is prepared on large scale?

Ans 1: It is prepared by dissolving phosphorus trioxide in cold water.



Ans 2: It is also obtained by the hydrolysis of phosphorus trichloride.

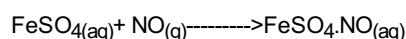


Q8. Why SO_3 is dissolved in H_2SO_4 and not in water?

Ans 1: SO_3 is not directly dissolved in water, since absorption is incomplete and mist of SO_3 and H_2SO_4 fills the factory, which causes great inconvenience to the workers. Therefore, SO_3 is absorbed in concentrated H_2SO_4 and Oleum ($H_2S_2O_7$) formed can be converted to sulphuric acid of any strength by mixing adequate quantities of water.

Q9. Describe Ring test for confirmation of presence of nitrate ions in solution?

Ans 1: To the aqueous solution of NO_3^- ions add $FeSO_4$ solution. Shake it well and add concentrated H_2SO_4 along the side of test tube. It forms a ring of brown coloured addition compound at the junction of two liquids due to the addition compound formed by the action of NO produced with $FeSO_4$.



Q10. Write names and formulas of oxyacids of nitrogen.

Ans 1: Name Formula

1. Nitrous Acid HNO_2

2. Nitric Acid HNO_3