

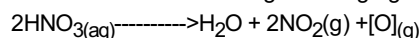
Chemistry - 12th Class Chemistry Chapter 4 Short Questions Preparation

Q1. 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.

Q2. How does HNO_3 act as an oxidizing agent?

Ans 1: It acts as a strong oxidizing agent due to the ease with which it is decomposed.



Q3. Give the advantage of contact process for the manufacture of sulphuric acid.

Ans 1: i) Contact process gives good yield of sulphuric acid.
 ii) Contact process produce sulphuric acid which is in its pure form.

Q4. 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 ($\text{H}_2\text{S}_2\text{O}_7$) formed can be converted to sulphuric acid of any strength by mixing adequate quantities of water.

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. How does nitrogen differ from other elements of its group? Give four points.

Ans 1: i) Nitrogen is diatomic gas and occurs in free state while other members tetra atomic solids and occur in combined state.

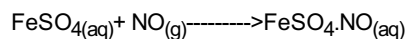
Ans 2: ii) Nitrogen does not show allotropy while others do except bismuth.

Ans 3: iii) Nitrogen shows +1, +2, +3, +4, +5, -1, -2, -3 oxidation states, while other elements don't show the variety of oxidation states.

Ans 4: iv) Nitrogen is poor conductor of heat electricity and gives acidic oxides except phosphorus while other members are not.

Q7. 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



Q8. Write any four important uses of H_2SO_4 ?

Ans 1: i) It is used in manufacturing of fertilizers like ammonium sulphate and calcium superphosphate.

Ans 2: ii) It is used in refining of petroleum to remove nitrogen and sulphur compounds.

Ans 3: iii) It is used in manufacturing of HCl , H_3PO_4 , HNO_3 and sulphates.

Ans 4: iv) It is used in electrical batteries and storage cells.

Q9. Give name and formulas of Oxyacids of Phosphorous.

Ans 1: Name Formula

Phosphoric acid H_3PO_3

Orthophosphoric acid H_3PO_4

Pyrophosphoric acid $\text{H}_4\text{P}_2\text{O}_7$

Metaphosphoric acid HPO_3

Q10. 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.

