

VIVA VOCE QUESTIONS WITH ANSWERS

Q.1. Name the gas having

- (a) Rotten egg odour
- (b) Smell of burning sulphur
- (c) Brown coloured gas
- (d) Basic in nature
- (e) Acidic in nature
- (f) Forms at time of lightning
- (g) Constituents of urea
- (h) Formed at nascent stage in aqua regia
- (i) Anhydride of sulphuric acid
- (j) Most electronegative among all gases.

Ans. (a) H_2S (b) SO_2 (c) NO_2 (d) NH_3
(e) CO_2 (f) NO (g) NH_3 and CO_2
(h) nascent chlorine (i) SO_3 (j) fluorine

Q.2. State the colour of the solution of

- (a) Ferric salt
- (b) Ferrous salt
- (c) Copper salt
- (d) NO turning acidified ferrous sulphate
- (e) Nessler's reagent when ammonia is passed

Ans. (a) Brown (b) Dirty green (c) Blue
(d) Brown (e) Brown

Q.3. This question is related to flame test.

- (a) Why is platinum wire used?
- (b) Type of flame employed.

(c) Glass rod cannot be used.

(d) Colour of (1) Na^+ ion (2) K^+ ion.

Ans. (a) It is not attacked by conc. HCl .

(b) Non-luminous flame

(c) Glass rod contains Na^+ and K^+ which impart their own colour.

(d) (1) Golden yellow

(2) Lilac

Q.4. Name the following:

(a) Gas turning alkaline pyrogallol solution brown.

(b) Gas burns with pop sound.

(c) Two metallic radicals which do not respond to ring test.

(d) Covalent gas which behaves as good electrical conductor in aqueous solution.

(e) Base used as an antacid.

(f) Indicator not showing any colour change in acidic medium.

(g) Acid used for cooking.

(h) One part of nitric acid and three parts of conc. hydrochloric acid.

(i) Explosive formed when ammonia reacts with excess of chlorine.

(j) Reacts with iron to give ferric chloride.

(k) Reacts with iron to give ferrous chloride.

Ans. (a) Oxygen (b) Hydrogen (c) Calcium nitrate and barium nitrate (d) HCl
(e) Magnesium hydroxide (f) Phenolphthalein (g) Acetic acid (h) Aqua regia
(i) Nitrogen trichloride (j) Chlorine
(k) Hydrochloric acid

Q.5. Name the following:

- (a) Two gases which turn lime water milky.
- (b) Two black-coloured oxidising agents.
- (c) Two lead salts which oxidise HCl to Cl_2 .
- (d) Chemical name of deep blue solution when excess NH_4OH is added $\text{Cu}(\text{OH})_2$ ppt.
- (e) Formula of Nessler's Reagent.

Ans. (a) SO_2 and CO_2

(b) MnO_2 and CuO

(c) PbO_2 and Pb_3O_4

(d) Tetraammine copper hydroxide

(e) K_2HgI_4

Q.6. Name the following:

(a) A metallic sulphide soluble in water.

(b) Acid prepared by catalytic oxidation of ammonia.

(c) A reddish gas formed when nitric acid comes in contact with air.

(d) A non-metallic element which forms a neutral and an acidic oxide.

(e) An insoluble salt formed by a reaction between metal and a non-metal.

(f) Gas turning lead acetate paper black.

Ans. (a) Sodium sulphide

(b) Nitric acid

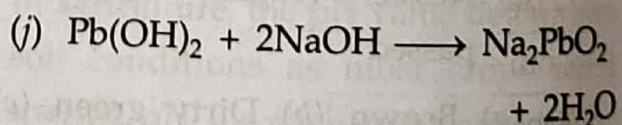
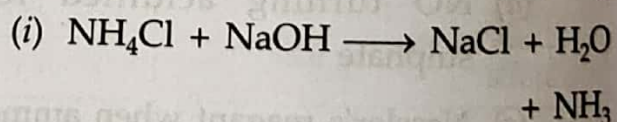
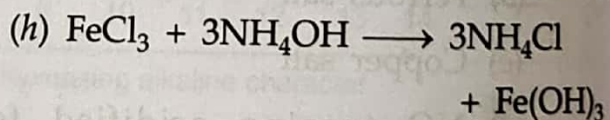
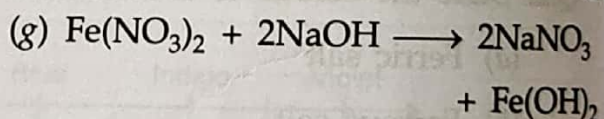
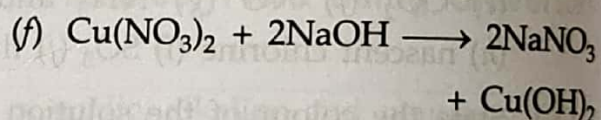
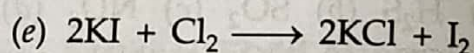
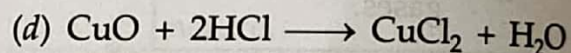
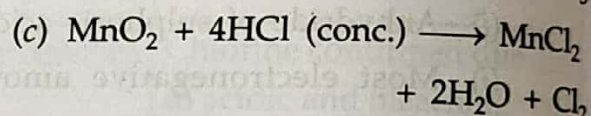
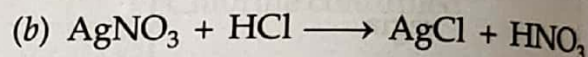
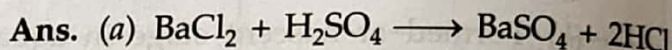
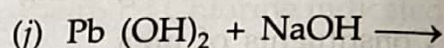
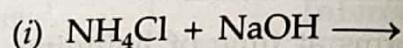
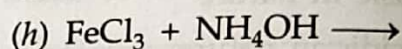
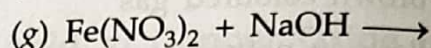
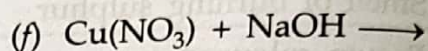
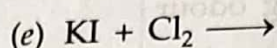
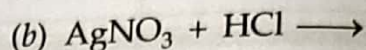
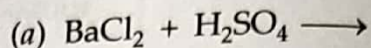
(c) Nitrogen dioxide

(d) Carbon or nitrogen

(e) Zinc sulphide

(f) Hydrogen sulphide

Q.7. Complete the following equations and balance them:



PRACTICE TEST

1. (a) Name the experiment which demonstrates extreme solubility of two gases.

(b) Name the two gases.

(c) State one difference in their observation.

(d) Account for the difference in (c).

(e) Write down the reaction between the gases.

2. Write the equation for the preparation of:

(i) Nitric acid from potassium nitrate.

(ii) Hydrogen chloride from sodium chloride.

(iii) Ammonia from magnesium nitride.

(iv) Ammonia from sal ammoniac.

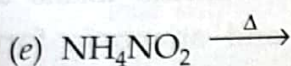
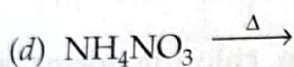
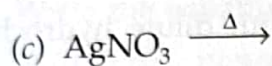
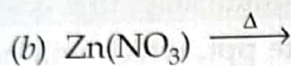
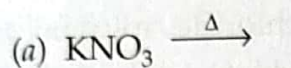
3. State what is observed when:

(a) Hydrochloric acid is added to silver nitrate solution.

(b) Nitric acid is kept in a glass bottle for a long time.

- (c) Rubber and cork fittings are used in the laboratory preparation of HNO_3 .
- (d) Hydrogen chloride is brought in contact with moist air.
- (e) Dilute HNO_3 accidentally falls on the skin.

4. Show by balanced equation the action of strong heat on the following:



5. The following reactions are carried out:

A : Aluminium + gas X \longrightarrow Compound Y

B : Y + boiling water \longrightarrow Ammonia + compound Z

C : Ammonia + CuO \longrightarrow metal K + water + gas J

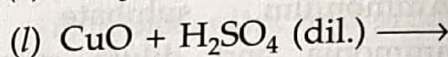
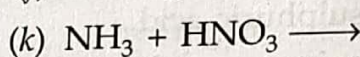
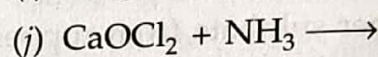
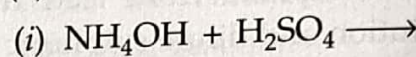
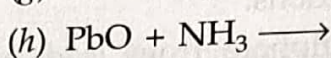
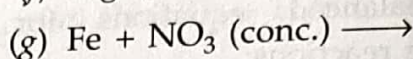
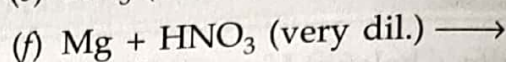
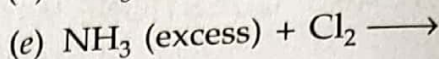
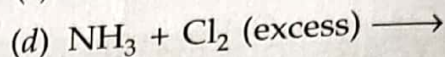
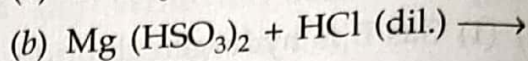
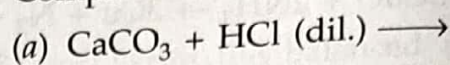
8. Complete the following table.

Process	Name of product	Catalyst	Approx. temp.
HABER			
CONTACT			
OSTWALD			

(a) Complete the reactions for A, B and C.

(b) Identify the substances X, Y, Z, K and J.

6. Complete the following reactions:



7. Concentrated HNO_3 and concentrated H_2SO_4 can oxidise (a) metals, (b) non-metals, and (c) inorganic compounds. Write two balanced equations each for both the acids for each of (a), (b) and (c).

9. Rainwater contains traces of HNO_3 during lightning. Account for this by a series of balanced equations.

10. Write down the equations involved in the manufacture of HNO_3 by Ostwald's process.

11. Show by balanced equations the dehydration of (a) sugar, (b) oxalic acid, (c) ethyl alcohol, and (d) $\text{MgSO}_4 \cdot 10\text{H}_2\text{O}$, by conc. H_2SO_4 .

12. How do H_2 and Cl_2 react in (a) diffused sunlight? (b) direct sunlight? (c) darkness?