

1. When sulphur reacts with conc. Nitric acid, then which gas evolved?
 - (a) CO₂
 - (b) NO₂
 - (c) O₂
 - (d) H₂
 2. Chlorine can displace Br and I from solutions of their respective salts.
 - (a) True
 - (b) False
 - (c) Can't say
 - (d) Partially true/false
 3. An element can react with oxygen to give a compound with high melting point. This compound is also water soluble. The element is likely to be
 - (a) Calcium
 - (b) Carbon
 - (c) Silicon
 - (d) Iron
 4. A metal M of moderate reactivity is present as sulphide X on heating in air, X converts in its oxide Y and a gas evolves. On heating Y and X together, the metal M is produced. X and Y respectively are:
 - (a) X- cuprous sulphide, Y- cuprous oxide
 - (b) X- cuprous sulphide, Y- cupric oxide
 - (c) X- sodium sulphide, Y- sodium oxide
 - (d) X- calcium sulphide, Y- calcium oxide
 5. The following observation are given for four metal
 - I. Metal H does not react with dilute HCl.
 - II. Metal K reacts with warm water.
 - III. Metal L does react with water but displ metal H from its aqueous salt solution.
 - IV. Metal M reacts with cold water.
- Choose the correct decreasing order of the reactivity of these metals among following:
- (a) M>L>H>K
 - (b) K>M>H>L
 - (c) M>K>L>H
 - (d) L>H>K>M
6. _____ gas is evolved when Mn reacts with very dilute HNO₃.
 - (a) NO₂
 - (b) H₂
 - (c) N₂O
 - (d) NO
 7. Carbon dioxide gas burns with a pop sound when a burning candle is brought near it.
 - (a) True
 - (b) False
 - (c) Can't say

- (d) Partially true/false
8. The formation of quick lime and carbon dioxide from calcium carbonate is an example of:
- (a) Photochemical decomposition reaction
 - (b) Thermal decomposition reaction
 - (c) Oxidation reaction
 - (d) Displacement reaction
9. Electrolysis of water is a decomposition reaction. The mole ratio of hydrogen and oxygen gases liberated during electrolysis of water is
- (a) 1:1
 - (b) 2:1
 - (c) 4:1
 - (d) 1:2
10. Which of the following can be decomposed by the action of sunlight?
- (a) KBr
 - (b) AgBr
 - (c) MgO
 - (d) NaCl
11. What will happen, when silver chloride is placed in sunlight sometime?
- (a) White silver chloride changes into grey coloured compound
 - (b) Decomposition takes place
 - (c) Both (a) and (b) take place
 - (d) Nothing will happen
12. The heating of lead nitrate produces brown fumes of 'X' gas. Identify 'X' from the following.
- (a) Lead oxide
 - (b) Oxygen
 - (c) Nitrogen dioxide
 - (d) Dinitrogen oxide
13. A solution turns red litmus blue, its pH is likely to be
- (a) 1
 - (b) 4
 - (c) 5
 - (d) 10
14. Which of the following statements is correct?
- (a) pH of acid rain is 7-7.8
 - (b) Acid rain makes survival of aquatic life difficult
 - (c) Acid rain clear the marble buildings
 - (d) All of the above
15. A sample of soil is mixed with the water and allowed to settle. The clear supernatant solution turns the pH paper yellowish-orange. Which of the following would change the colour of this Ph paper to greenish-blue?
- (a) Lemon juice
 - (b) Vinegar
 - (c) Common salt
 - (d) An antacid

16. Calcium phosphate is present in tooth enamel. Its nature is _____
- (a) basic
 - (b) acidic
 - (c) neutral
 - (d) Amphoteric
17. Antacids contain _____
- (a) weak base
 - (b) weak acid
 - (c) strong base
 - (d) strong acid
18. Which of the following substances can be used to get relief from bee sting?
- (a) Vinegar
 - (b) Baking soda
 - (c) Formic acid
 - (d) Alcohol
19. Use substance from disinfecting water is _____
- (a) Washing soda
 - (b) Common alum
 - (c) Baking soda
 - (d) Bleaching powder
20. The chemical formula of washing soda is _____
- (a) NaHCO_3
 - (b) $\text{NaCO}_3 \cdot 10\text{H}_2\text{O}$
 - (c) CaOCl_2
 - (d) NaOH

Answer to these questions from the codes (a), (b), (c) and (d) as given below.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true, but R is not the correct explanation of A.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

21. Assertion: When a mixture of hydrogen and bromine is placed in sunlight, hydrogen bromide is formed.

Reason: It is an example of a combination reaction.

22. Assertion: Magnesium ribbon burns in the presence of oxygen.

Reason: Magnesium acts as an oxidising agent.

23. Assertion: Dry hydrogen chloride gas does not change the colour of blue litmus paper to red.

Reason: Dry hydrogen chloride gas is strongly basic.

24. Assertion: The oxides of sulphur and phosphorus are acidic in nature.

Reason: Metal oxides are acidic in nature.

25. Assertion: pH of ammonium nitrate solution is acidic.

Reason: Solution of salt of weak base and strong acid is acidic in nature.

26. Assertion: AgBr is used on photographic and X-ray film.

Reason: AgBr is photosensitive and changes to silver and bromine in the presence of sunlight and undergoes decomposition.

Case-based Question-I: Displacement and Double Displacement Reactions:

27. A displacement reaction is one in which one element of a compound is replaced by another element. For example, when a strip of Zn is placed in aqueous CuSO₄ (blue), it does not take long for the displacement reactions to form metallic copper and colourless ZnSO₄ solution. In double displacement reactions, two reacting compounds exchange their corresponding ions and form two new compounds. For example, double displacement reactions take place when aqueous solution of barium chloride and sodium sulphate are mixed together: barium sulphate and sodium chloride are formed.

(i) Displacement reaction is also known as:

- (a) Precipitation reaction
- (b) Substitution reaction
- (c) Combination reaction
- (d) None of the above

(ii) On keeping the iron nails dipped in copper sulphate solution for about 30 minutes, the changes you will observe is:

- (a) Iron nails become brownish in colour and the blue colour of copper sulphate solution fades.
- (b) Iron nails become bluish in colour and the blue colour of copper sulphates fades.
- (c) Iron nails become brownish in colour and the blue colour of copper sulphates solution changes to orange.
- (d) No reaction takes place.

(iii) The colour of the precipitate obtained when aqueous silver nitrate and sodium chloride are mixed will be:

- (a) Yellow
- (b) Green
- (c) White
- (d) Orange

(iv) What happens when hydrogen sulphide gas is passed into an aqueous solution of copper sulphate?

- (a) Yellow precipitate copper oxide is obtained.
- (b) Black precipitate of copper sulphide is obtained
- (c) Displacement reaction takes place
- (d) Both (b) and (c)

28. Read the following and answer any four questions from (i) to (v).

In everyday life, pH plays an important role on a daily basis like in gardening and farming, the best crops are usually obtained with the neutral or slightly acidic soil (pH6.5 to7.0), tooth decay starts when the pH of the mouth is lower than 5.5. Bee-sting leaves an acid which causes pain and irritation etc.

(i) During indigestion, which acid is produced by the stomach that causes irritation and pain?

- (a) Hydrochloric acid
- (b) Sulphuric acid
- (c) Nitric acid
- (d) Phosphoric acid

(ii) Rain is called an acid rain when the pH is:

- (a) Above 8.5
- (b) Below 6.5
- (c) Below 5.6
- (d) Between 7-8

(iii) The basic salt gives relief on the stung area is:

- (a) Washing soda
- (b) Caustic soda
- (c) Baking soda
- (d) Bleaching powder

(iv) Which of the following types of medicines is used for the treatment of hyperacidity in the stomach?

- (a) Antiseptic
- (b) Antibiotic
- (c) Analgesic
- (d) Antacid

(v) Which of the following substances is added by farmers if the soil is acidic?

- (a) Common salt
- (b) Slaked lime
- (c) Vinegar
- (d) Limestone