CLASS 10 CHEMISTRY PREVIOUS YEAR QUESTIONS ACIDS , BASES AND SALTS

Question 1. With the help of an example explain what happens when a base reacts with a non- metallic oxide. What do you infer about the nature of non-metal oxide? (Board Term I, 2017)

Question 2. What is observed when carbon dioxide gas is passed through lime water
(i) for a short duration?
(ii) for a long duration? Also write the chemical equations for the reactions involved. (Board Term I, 2016)

Question 3. 2 mL of sodium hydroxide solution is added to a few pieces of granulated zinc metal taken in a test tube. When the content are warmed, a gas evolves which is bubbled through a soap solution before testing. Write the equation of the chemical reaction involved and the test to detect the gas. Name the gas which will be evolved when the same metal reacts with dilute solution of a strong acid.

Question 4. Write the names of the product formed when zinc reacts with NaOH. Also write the balanced chemical equation for the reaction involved. Write a test to confirm the presence of the gas evolved during this reaction. (Board Term I, 2015)

Question 5. To. a solution of sodium hydroxide in a test tube, two drops of phenolphthalein are added.
(i) State the colour change observed.
(ii) If dil HCl is added dropwise to the solution, what will be the colour change?
(iii) On adding few drops of NaOH solution to the above mixture the colour of the solution reappears. Why? (Board Term I, 2013)

Question 6. A cloth'strip dipped in onion juice is used for testing a liquid 'X. The liquid 'X changes its
odour. Which type of an indicator is onion juice? The liquid 'X turns blue litmus red. List the observations the liquid 'X will show on reacting with the following :
(a) Zinc granules
(b) Solid sodium carbonate
Write the chemical equations for the reactions involved.

Question 7. (a) Write the chemical name and formula of marble.
(b) It has been found that marbles of Taj are getting corroded due to development of industrial areas around it. Explain this fact giving a chemical equation.
(c) (i) What happens when CO_2 is passed through lime water?
(ii) What happens when CO_2 is passed in excess through lime? (Board Term I, 2013)

Question 8. On diluting an acid, it is advised to add acid to water and not water to acid. Explain why it is so advised? (Board Term I, 2014)
Draw a labelled diagram to show the preparation of hydrogen chloride gas in laboratory.
(ii) Test the gas evolved first with dry and then with wet litmus paper. In which of the two cases, does the litmus paper show change in colour?
(iii) State the reason of exhibiting acidic character by dry HCl gas/HCl solution.

Question 9. (i) Draw a labelled diagram to show the preparation of hydrogen chloride gas in laboratory.
(ii) Test the gas evolved first with dry and then with wet litmus paper. In which of the two cases, does the litmus paper show change in colour?

(iii) State the reason of exhibiting acidic character by dry HCl gas/HCl solution. (2020)

Question 10. Complete and balance the following chemical equations :
(i) $NaOH_{(aq)} + Zn_{(s)} \rightarrow$
(ii) $CaCO_{3(s)} + H_2O_{(l)} + CO_{2(g)} \rightarrow$
(iii) $HCl_{(aq)} + H_2O_{(l)} \rightarrow$

Question 11. How the following substances will dissociate to produce ions in their solutions?
(i) Hydrochloric acid
(ii) Nitric acid
(iii) Sulphuric acid
(iv) Sodium hydroxide
(v) Potassium hydroxide
(vi) Magnesium hydroxide (Board Term 1, 2017)

Question 12. Sugandha prepares HCl gas in her school laboratory using certain chemicals. She puts both dry and wet blue litmus papers in contact with the gas.
(i) Name the reagents used by Sugandha to prepare HCl gas.
(ii) State the colour changes observed with the dry and wet blue litmus papers.
(iii) Show the formation of ions when HCl gas combines with water. (Board Term I, 2013)

Question 13. (a) Illustrate an activity to investigate whether all compounds containing hydrogen are acidic.
(b) What happens when hydrochloric acid and sodium hydroxide are dissolved in water. Explain by giving equation of each. (Board Term 1, 2016)

Question 14. An aqueous solution 'A' turns phenolphthalein solution pink. On addition of an aqueous solution 'B' to 'A' the pink colour disappears. The following statement is true for solution 'A' and 'B':
(a) A is strongly basic and B is a weak base.
(b) A is strongly acidic and B is a weak acid.
(c) A has pH greater than 7 and B has pH less than 7.
(d) A has pH less than 7 and B has pH greater than 7. (2020)

Question 15. Out of HCl and CH_3COOH, which one is a weak acid and why? Explain with the help of an example. (AI 2019)

Question 16. Explain how an antacid works. (Board Term I, 2017)

Question 17. (a) Three acidic solutions A, B and C have pH = 0, 3 and 5 respectively.
(i) Which solution has highest concentration of H^+ ions?
(ii) Which solution has the lowest concentration of H^+ ions?
(b) How concentrated sulphuric acid can be diluted? Describe the process. (Board Term I, 2014)

Question 18. A compound P forms the enamel of teeth. It is the hardest substance of the body. It doesn't dissolve in water but gets corroded when the pH is lowered below 5.5.
(a) Identify the compound P.
(b) How does it undergo damage due to eating chocolate and sweets? What should we do to prevent tooth decay? (Board Term I, 2014, 2013)

Question 19. Baking soda is a mixture of
(a) sodium carbonate and acetic acid
(b) sodium carbonate and tartaric acid
(c) sodium hydrogen carbonate and tartaric acid

(d) sodium hydrogen carbonate and acetic acid.

Question 20. The chemical formula for plaster of Paris is
(a) $CaSO_4.2H_2O$
(b) $CaSO_4.2H_2O$
(c) $CaSO_4.12H_2O$
(d) $2CaSO_4.2H_2O$

Question 21. "Sodium hydrogen carbonate is a basic salt". Justify this statement. How is it converted into washing soda? (AI2019)

Question 22. Write the chemical formula of Bleaching powder. How is bleaching powder prepared? For what purpose is it used in drinking water? (Board Term I, 2016)

Question 23. A student collected common names and formulae of some substances but he forgot to note which formula is for which compound. Help him to match the correct formula. (Board Term I, 2013)

(i) Caustic soda	$NaHCO_3$.
(ii) Slaked lime	CaO
(iii) Baking soda	NaOH
(iv) Lime	$Ca(OH)_2$.

Question 24. List the important products of the Chlor-alkali process. Write one important use of each. (2020)

Question 25.How is washing soda prepared from sodium carbonate? Give its chemical equation. State the type of this salt. Name the type of hardness of water which can be removed by it? (2020)

Question 26. Give reasons for the following:
(i) Only one half of water molecule is shown in the formula of plaster of Paris.
(ii) Sodium hydrogen carbonate is used as an antacid.
(iii) On strong heating, blue coloured copper sulphate crystals turn white. (2020)

Question 27. During electrolysis of brine, a gas 'G' is liberated at anode. When this gas 'G' is passed through slaked lime, a compound 'C' is formed, which is used for disinfecting drinking water.
(i) Write formula of 'G' and 'C'.
(ii) State the chemical equations involved.
(iii) What is common name of compound 'C' ? Give its chemical name. (2020)

Question 28. Identify the acid and the base from which sodium chloride is obtained. Which type of salt is it? When is it called rock salt? How is rock salt formed? (Delhi 2019)

Question 29. A white powder is added while baking cakes to make it soft and spongy. Name its main ingredients. Explain the function of each ingredient. Write the chemical reaction taking place when the powder is heated during baking. (AI2019)

Question 30. The pH of a salt used to make tasty and crispy pakoras is 14. Identify the salt and write a chemical equation for its formation. List its two uses. (2018)

Question 31. Write one point of difference between each of the following:
(i) A hydrated salt and an anhydrous salt.
(ii) Washing soda and soda ash.
(iii) Baking soda and baking powder. (Board Term 1,2017)

Question 32. Complete the following table:

Sample Solution	Red litmus solution	Blue litmus solution	Phenolp-hthalein solution
Acetic acid			
Sodium hydroxide			
Baking soda			

Question 33. A white coloured powder is used by doctors for supporting fractured bones.
(a) Write chemical name and formula of the powder.
(b) When this white powder is mixed with water a hard solid mass is obtained. Write balanced chemical equation for this change. (Board Term I, 2016)

Question 34. (a) Define an acid-base indicator. Mention one synthetic acid-base indicator.
(b) If someone in the family is suffering from a problem of acidity after overeating, which of the following substances would you suggest as a remedy?
Lemon juice, vinegar or baking soda solution. Mention the property on the basis of which you will choose the remedy. (Board Term I, 2014)

Question 35. Define water of crystallisation. Give the chemical formula for two compounds as examples. How can it be proved that the water of crystallisation makes a difference in the state and colour of the compounds? (2020)

Question 36. (a) A student dropped a few pieces of marble in dilute hydrochloric acid contained in a test tube. The evolved gas was passed through lime water. What change would be observed in lime water? Write balanced chemical equations for both the changes observed.

(b) State the chemical property in each case on which the following uses of baking soda are based:
(i) as an antacid
(ii) as a constituent of baking powder. (Board Term I, 2017)

Question 37. (a) What are anhydrous and hydrated salts? Explain with a suitable example of each]
(b) How is plaster of Paris prepared? What reaction takes place when it sets to a hard mass? (Board Term I, 2017)

Question 38. (a) Write the chemical formula of hydrated copper sulphate and anhydrous copper sulphate. Giving an activity illustrate how these two are interconvertible.
(b) Write chemical names and formulae of plaster of Paris and gypsum. (Board Term 1, 2016)

Question 39. How is sodium hydroxide produced? Write the balanced chemical equation also. Why is this process called as chlor-alkali process? In this process name the products given off at:
(a) anode
(b) cathode
Write one use of each of these products. (Board Term I, 2015)

Question 40. What is water of crystallization? Write the common name and chemical formula of a commercially important compound which has ten water molecules as water of crystallization. How is this compound obtained? Write the chemical equation also. List any two uses of this compound. (Board Term I, 2015)

Question 41. (a) Name and describe giving chemical equation the process used for producing sodium hydroxide. Why is this process so named?
(b) Give one use of each of any two products obtained in this process. (Board Term I, 2014)

Question 42. (a) You have three solutions – A, B and C having a pH of 6, 2 and 9 respectively. Arrange these solutions in increasing order of hydrogen ion concentration. Which of the three is most acidic? What happens to the hydrogen ion concentration in A as it is diluted?
(b) If someone is suffering from a stomach problem called acidity, why is a solution of baking soda offered as a remedy?
(c) Write chemical name and formula of baking soda. (Board Term I, 2013)