CLASS X – SCIENCE – CHAPTER 02

ACID BASE AND SALT

Name: Date:

CHOOSE THE CORRECT OPTION FROM QUES 1 TO 14

Q01. An acid can react with

(a) AgCl (b) Na_2CO_3 (c) $PbSO_4$ (d) Na_2SO_4

Q02. Which of the following gives CO_2 on heating?

(a) Slaked (b) Quick lime (c) Lime stone (d) Soda ash

Q03. Plaster of Paris is made from

(a) Lime stone (b) Slaked Lime (c) Quick lime (d) Gypsum

Q04. Which is a base and not alkali?

(a) NaOH (b) KOH (c) $Fe(OH)_3$ (d) None

Q05. Chemical formula of baking soda is

(a) $MgSO_4$ (b) Na_2CO_3 (c) $NaHCO_3$ (d) $MgCO_3$

Q06. If pH of solution is 13, it means that if is

(a) Weakly acidic (b) Weakly basic (c) Strongly acidic (d) Strongly Basic

Q07. An aqueous solution with pH-zero is

(a) Acidic (b) Alkaline (c) Neutral (d) Amphoteric

Q08. Setting of Plaster of Paris takes place due to

(a) Oxidation (b) Reduction (c) Dehydration (d) Hydration

Q09. The difference of water molecules is gypsum and Plaster of Paris is

(a) $\frac{5}{2}$ (b) 2 (c) $\frac{1}{2}$ (d) $\frac{3}{2}$

Q10. The odour of acetic acid resembles that of

(a) Rose (b) Burning Plastic (c) Vinegar (d) Kerosene

Q11. Washing soda has the formula

(a) $Na_2CO_3.7H_2O$ (b) $Na_2CO_3.10H_2O$ (c) $Na_2CO_2.10H_2O$ (d) Na_2CO_3

Q12. Plaster of Paris hardens by

(a) Giving off CO_2 (b) Changing into $CaCO_3$

(c) Combining with water (d) Giving out water

Q13. Which of the following is evolved when Na_2CO_3 is heated?

(a) CO_2 (b) CO (c) O_2 (d) No

Q14. A drop of liquid sample was put on the pH paper, paper turned blue. The liquid sample must be of

(a) Lemon Juice (b) HCl (c) Sodium bicarbonate (d) Ethanoic acid

Q01. What happens to the crystals of washing soda when exposed to air?

Q02. What is the chemical name of washing soda? Name three raw materials used in making washing soda by Solvay process?

Q03. What is efflorescence? Give an example?

Q04. Why is sodium hydrogen carbonate an essential ingredient is antacids?

Q05. (a) Name the raw materials used is the manufacture of sodium carbonate by Solvay process

(b) How is sodium hydrogen carbonate formed from a mixture of NH_4Cl and $NaHCO_3$?

Q06. Write equations for the following reactions

(i) Dilute sulphuric acid reacts with zinc granules

(ii) Dilute hydrochloric acid reacts with magnesium ribbon.

(iii) Dilute sulphuric acid reacts with aluminium powder.

Q07. How is plaster of Paris chemically different from gypsum? How may these be inter converted? Write one use of plaster of Paris?

Q08. What will you observe when:

(i) Red litmus is introduced into a solution of sodium sulphate.

(ii) Methyl orange is added to dilute HCl.

(iii) Blue litmus is introduced into a solution of ferric chloride

Q09. Explain why-

(i) Anhydrous calcium chloride is used in desiccators

(ii) If bottle full of concentrated H_2SO_4 is left open in the atmosphere by accident, the acid starts flowing out the bottle of its own.

Q10. Give the name and formula of two

(i) strong monobasic acids (ii) two weak dibasic acids

Q11. Why alkalis like sodium hydroxide and potassium hydroxide should not be left exposed to air?

Q12. Dry ammonia has no action on litmus paper but a solution of ammonia in water turns red litmus paper blue. Why is it so?

Q13. Bleaching powder forms a milky solution in water. Explain.

Q14. A first aid manual suggests that vinegar should be used to treat wasp sting and baking soda for bee stings.

(a) What does this information tell you about the chemical name of the wasp sting?

(b) If there were no baking soda in the house, what other house hold substances would you use to treat as stings?

Q15. Does Tartaric acid helps in making cake or bread fluffy? Justify.

Q16. Explain why?

(a) Common salt becomes sticky during the rainy season.

(b) Blue vitriol change to white upon heating.

Q17. A compound X of sodium is commonly used in kitchen for making crispy pakoras. It is also used for curing acidity in the stomach. Identify 'X'. What is its chemical formula? State the reaction that takes places when it is heated during cooking?

Q18. (a) Why does an aqueous solution of acid conduct electricity?

(b) How does the concentration of hydrogen ions $[H_3O]$ +changes when this solution of an acid is diluted with water?

(c) Which has higher pH A concentrated or dilute solution of HCL?

(d) What would you observe on adding dil HCL acid to

(i) Sodium bicarbonate placed in a test tube. (ii) Zinc metal in a test tube.

Q19. Why does not an acid show any acidic behaviour is the absence of water?

Q20. Fresh milk has a pH of 6. What will be the PH value if milk changes into a curd Justify.

Q21. What is the reaction between hydrogen in concentration ion concentration of an aqueous solution and pH?

Q22. How will you show that acetic acid is monobasic acid?

Q23. (a) What is the action of red litmus on

(i) Dry ammonia gas (ii) Solution of ammonia gas is water?

(b) State the observations you would make on adding ammonium hydroxide to aqueous solution of

(i) furious sulphate (ii) Aluminium chloride?

Q24. 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.

Give the chemical for baking soda

Q25. A road tanker carrying an acid was involved in an accident and its contents spilled on the road. At the side of the road iron drain cover began melting and fizzing as the acid ran over them. A specialist was called to see if the acid actually leaked into the nearby river.

(a) Explain why specialist could carry out sample test to see of the river water contains some acid or not

(b) Suggest a better report name for the word 'melting'

(c) Explain why the drain covers began fizzing as the acid ran over them.