GIRI SIR'S CLASSES

HATIGAON, GUWAHATI

SALTS

Class 10 - Science

Time Allowed: 1 hour **Maximum Marks: 60**

General Instructions:

All the questions are compulsory.

Section A

1. Bleaching powder is treated with CO_2: **[1]**

   a) It absorbs the gas.
   b) CaO is formed.
   c) $CaCl_2$ is formed.
   d) $CaCO_3$ and Cl_2 are formed.

2. Plaster of Paris is made from **[1]**

   a) Limestone
   b) Quick lime
   c) Gypsum
   d) Slaked Lime

Section B

3. Kedar heated a few crystals of copper sulphate in a dry boiling tube. **[2]**

   a. What will be the color of the copper sulphate after heating?
   b. Will you notice water droplets in the boiling tube?
   c. Where have these come from?

Section C

4. **Assertion (A):** The Plaster of Paris is stored in moisture. **[1]**
   Reason(R): Plaster of Paris sets into a hard mass on wetting with water to form anhydrous calcium sulphate.

   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.

5. **Assertion (A):** When common salt is kept open, it absorbs moisture from the air. **[1]**
   Reason (R): Common salt contains magnesium chloride.

   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.

6. **Assertion (A):** Baking powder is used in making cake instead of using baking soda. **[1]**
   Reason (R): Baking powder contains tartaric acid which reacts with sodium carbonate and removes bitter taste.

   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.

Section D

7. Name the compound of calcium used for disinfecting water. Give its chemical formula. **[1]**
8. Write the chemical name and formula of bleaching powder. **[1]**
9. Give one use of sodium hydrogen carbonate. **[1]**
10. A metal compound X reacts with dil. H_2SO_4 to produce effervescence, The gas evolved extinguishes a burning candle. If one of the compound formed is calcium sulphate, then what is X and the gas evolved? Also, write a balanced chemical equation for the reaction which occurred. **[1]**
11. Give two uses of chlorine. **[1]**
12. What is the chemical name of washing soda? Name three raw materials used in making washing soda by Solvay process? **[1]**
13. If someone is suffering from the problem of acidity after overeating, which of the following would you suggest as remedy? Lemon juice, Vinegar, Baking soda solution Give reason for your choice. **[1]**
14. Name a sodium compound which is used of softening hard water. **[1]**
15. Write the formula and chemical name of bleaching powder. **[2]**

    (i) Write chemical equation to represent the action of atomospheric CO_2 gas on bleaching powder when left exposed in open.

    (ii) State for what purpose is bleaching powder used in water treatment plants.
16. State the number of water molecules present in crystals of washing soda and Plaster of Paris. What are these water molecules called as? **[2]**
17. How is sodium hydroxide obtained from sodium chloride? **[2]**
18. i. A white power is an active ingredient of antacids and is used in preparation of baking powder. Name the compound and explain that how it is manufactured. Give chemical equation. **[2]**

    ii. Write a chemical equation to show the effect of heat on this compound.
19. The pH of a salt used to make tasty and crispy pakoras is 9. Identify the salt and write a chemical equation for its formation. List its two uses. **[2]**
20. What is salt hydrolysis ? **[2]**
21. How is bleaching powder prepared ? **[2]**
22. Define water of crystallisation with two examples. How will you prove their existence in the examples given by you? **[3]**
23. Write the chemical name for Plaster of paris. Write the chemical equation of its preparation. Why should Plaster of Paris be stored in a dry place. **[3]**
24. Name the three products of the 'chlor-alkali' process. Write one commercially or industrially important material each that can be prepared from each of these products. **[3]**
25. A compound which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water. Identify the compound. Write the chemical equation for its preparation. For what purpose is it used in hospitals? **[3]**
26. A milkman adds a very small amount of baking soda to fresh milk. **[3]**

    i. Why does he shift the pH of the fresh milk from 6 to slightly alkaline?

    ii. Why does this milk take a long time to set as curd?

    iii. What do you expect to observe when milk comes to boil?
27. A chemical compound X is prepared using sodium chloride as starting material. The compound X is used for faster cooking. It also finds use as an ingredient in medicine to treat indigestion. **[3]**

i. Identify the compound X.

ii. Give an equation for the chemical reaction which takes place upon heating X during cooking.

iii. Which quality of compound X makes it suitable for treating indigestion?

28. Explain the following giving equation in each: **[3]**

i. Baking soda is heated.

ii. Washing soda is heated.

iii. Gypsum is heated at 373 K.

29. What are hydrated salts and water of crystallization ? **[5]**

30. i. What is salt? Give the names and formulae of any two salts. Also, name the acids and bases from which these salts may be obtained. **[5]**

ii. What is meant by **a family of salts**? Explain with examples.

iii. What is meant by **hydrated** and **anhydrous** salts? Explain with examples.

iv. Write the names, formulae, and colours of any two hydrated salts.

v. What will be the colour of litmus in an aqueous solution of ammonium chloride salt?