

 **Class: X CHEMISTRY**

 **Date: 04.01.2020 WORH SHEET**

**SECTION A**

1. Draw the electron dot structure of carbon dioxide.
2. On adding dilute HCl to copper oxide powder the solution formed is blue-green. Predict the new compound formed which imparts a blue-green colour to the solution.

**SECTION B**

1. Identify the compound of calcium which is used for plastering of fractured bones. With the help of chemical equation show how is it prepared and what special precautions should be taken during the preparation of this compound.
2. What is functional group? Identify the functional group present in CH3COOH and C2H5OH.
3. Give reasons for the following:
4. Aluminium oxide is considered as an amphoteric oxide.
5. Ionic compounds conduct electricity in molten state.

OR

  How can washing soda be obtained from baking soda? Name

 an industrial use of washing soda other than washing clothes.

**SECTION C**

1. Given below are some elements of the modern periodic table:

       4Be, 9Fe, 14Si, 19K, 20Ca

1. Select the element that has one electron in the outermost

 shell and write its electronic configuration.

1. Select two elements that belong to the same group. Give reason for you answer.
2. Select two elements that belong to the same period. Which one of the two has bigger atomic size?
3. What do you mean by water of crystallization of a substance? Describe an activity to show that blue copper sulphate crystals contain water of crystallization

OR

Give the composition of the following alloys:

 a. Brass b. Bronze c. Solder

1. Write the chemical formula of washing soda and baking soda. Which one of these two is an ingredient of antacids? How does it provide relief in stomach ache?
2. What happens when aqueous solutions of Sodium sulphate and Barium chloride are mixed? Give a balanced equation for the reaction with state symbols. Name and define the type of chemical reaction involved in the above change.
3. a. Complete the following equations:

      

  b. Write the name of the following:

1. CH3CH2COOH ii. CH3CH2Br

 iii. CH3CH2COCH2CH2CH3

1. a. What is observed when a solution of potassium iodide is added to lead

 nitrate solution?

1. Name the type of reaction also write a balanced chemical equation for the reaction.

OR

1. Distinguish between an exothermic and an endothermic reaction.
2. Identify the type of reaction in the following:

  Fe + CuSO4 (aq) -> FeSO4 (aq) + Cu(s)

   2H2 + O2 -> 2H2O

1. a. Write balanced chemical equations for the following:

 i. Dilute sulphuric acid reacts with aluminium powder.

  ii. Dilute hydrochloric acid reacts with sodium carbonate.

 iii. Carbon dioxide is passed through lime water.

 b. What will you observe when?

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

 ii. Methyl orange is added to dil.HCI.

iii. Blue litmus is introduced into a solution of ferric chloride.

1. a. State the properties of carbon which enable it to form a large number

 of compounds. Also state the type of bonding found in most of its

 compounds.
 b. Give reason why the carbon compounds:
 (i) Generally have low melting and boiling points.
 (ii) Do not conduct electricity in molten state.

1. Zn + CuSO4 -> ZnSO4+ Cu. Identify the oxidising and reducing

 agents. Give reason.

1. A milkman adds a very small amount of baking soda to fresh milk.
2. Why does he shift the pH of the fresh milk from 6 to slightly

 alkaline?

   (b) Why does the milk take a long time to set as curd?

OR

 Write the name and formula of one salt each which contains:

 a) Two molecules of water of crystallisation.

 b) Five molecules of water of crystallisation.

 c) Ten molecules of water of crystallisation.

**SECTION D**

 16. a) In the electrolysis of water,

 i. Name the gas collected at anode and cathode

 ii. Why is the volume of gas collected at one electrode double

 than the other?

iii. What would happen if dil. H2SO4 is not added to water?

b) “pH has a great importance in our daily life” explain by giving

 three examples.

 17. You are given balls and stick model of six carbon atoms and

 fourteen hydrogen atoms and sufficient number of sticks. In how

 many ways one can join the models of six carbon

 atoms and fourteen hydrogen atoms to form different molecules

 of C6H14. (5)

**OR**

 Draw the structural formulae of all the possible isomers of the

 compound with the molecular formula C3H6O and also give their

 electron dot structures.

 18.  (a) What is reactivity series? How does the reactivity series of metals

 help in predicting the relative activities of various metals?

1. Suggest different chemical processes used for obtaining a metal from its oxides for metals in the middle of the reactivity series and metals towards the top of the reactivity series. Support your answer with one example each.

 19. An apparatus was set up as shown in the figure. It was observed that

 when an aqueous solution of HCl was taken in the beaker and the

 circuit was closed, the bulb in the circuit began to glow, but it did not

 glow when the experiment was repeated with glucose solution. What

 could be the reason?

 Would the bulb glow if the same experiment was repeated with an

 aqueous solution of:

 i. NaOH ii. NaCl



 20. Account for the following:

 a. Melting and boiling point of ionic compounds are high.

 b. Aluminium is more active than iron, yet there is less erosion of

 aluminium when both are exposed to air.

1. Solder is used for welding electrical wires together.
2. A sulphide ore is converted into oxide to extract the metal.
3. Tarnished copper vessel is cleaned with tamarind juice.

OR

1. Giving example of each, explain how the following metals are obtained from their compounds by the process of reduction.
2. Metal ‘A’ which is low in the reactivity series of metals.
3. Metal ‘B’ which is in the middle of the activity series of metals.
4. Metal ‘C’ which is high in the reactivity series of metals.
5. What is meant by refining of metal? In the refining of the metal M, name the cathode, anode and the electrolyte.

|  |  |
| --- | --- |
|  21. a. How [will you show experimentally that metal good conductors of heat.](https://aglasem.com/) |  |

b.Describe [the extraction of Mercury metal from its ore Cinnabar (HgS).](https://aglasem.com/)

**SECTION E**

|  |  |
| --- | --- |
|  22.  A solution ‘X’ gives orange colour when a drop of universal indicator is added to it. On the other hand, another solution ‘Y’ gives bluish-green colour when a drop of universal indicator is added to it.What are the types of solution ‘X’ and ‘Y’ and what type of pH would they have? 23. What will be the two observations made by the student when iron filings are  added to copper sulphate solution? |  |
|  24. From an [experiment to study the properties of acetic acid. Answer the](https://aglasem.com/)  [following questions:](https://aglasem.com/) |  |

1. Name [the substances which on addition to acetic acid produce carbon dioxide gas. Give relevant](https://aglasem.com/) chemical equation [for the above?](https://aglasem.com/)
2. How [is CO2 gas tested in the laboratory?](https://aglasem.com/)

 25. What is the difference between burning of magnesium ribbon in air and

 heating of ferrous sulphate crystals? Write equations for these reactions.

 26. Soap cannot be used in hard water. Why?

 27. Give one advantage of

 a. detergent over soap.

  b. soap over detergent