by one.

The results obtained have been tabulated as follows :

Metal	Iron (II) sulphate	Copper (II) sulphate	Zinc sulphate	Silver nitrate
A	No reaction	Displacement		
B	Displacement		No reaction	
C	No reaction	No reaction	No reaction	Displacement
D	No reaction	No reaction	No reaction	No reaction

Use the Table above to answer the following questions about metals A, B, C and D.

(i) Which is the most reactive metal ?

(ii) What would you observe if B is added to a solution of copper (II) sulphate?

(iii) Arrange the metals A, B, C and D in the order of decreasing reactivity.

X

Question 4

Metallic oxides of zinc, magnesium and copper were heated with the following metals :

	Metal	Zinc	Magnesium	Copper
1.	Zinc oxide			
2.	Magnesium oxide			
3.	Copper oxide			

In which cases will you find displacement reactions taking place ?

Answer:

Which of the following pairs will give displacement reactions ?

(a) NaCl solution and copper metal.

(b) $MgCl_2$ solution and aluminium metal.

(c) $FeSO_4$ solution and silver metal.

(d) $AgNO_3$ solution and copper metal.

Question 2.

Which of the following methods is suitable for preventing an iron frying pan from rusting ?

(a) Applying grease

(b) Applying paint.

(c) Applying a coating of zinc

(d) All the above.

#Compentancy Based Question:

1. Based on the reactivity of different metals with oxygen, water and acids as well as displacement reactions, the metals have been arranged in the decreasing order of their reactivities. This arrangement is known as activity series or reactivity series of metals. The basis of reactivity is the tendency of metals to lose electrons. If a metal can lose electrons easily to form positive ions, it will react readily with other substances. Therefore, it will be a reactive metal. On the other hand, if a meal loses electrons less rapidly to form a positive ion, it will react slowly with other substances. Therefore, such a metal will be less reactive.

1. Which of the following metal is less reactive than hydrogen?
A.Copper B.Zinc C.Magnesium D. Lead

2. Which of the following represents the correct order of reactivity for the given metals?
A. Na>Mg>Al>Cu B. Mg>Na>Al>Cu C. Na>Mg>Cu>Al D. Mg > Al > Na > Cu

3. Hydrogen gas is not evolved when a metal reacts with nitric acid. It is because HNO, is a strong oxidising agent. It oxidises the H, produced to water and itself gets reduced to any of the nitrogen oxides (N,O, NO, NO2). But _____ and _____ react with very dilute HNO3 to evolve H2 gas.
A. Pb, Cu B. Na, K C. Mg, Mn D. Al, Zn

2. An ionic compound is a chemical compound in which ions are held together by ionic bonds. An ionic bond is the type of chemical bond in which two oppositely charged ions are held through electrostatic forces. We know that metal atoms have loosely bound valence electrons in their valence shell and non-metal atoms need electrons in their valence shell to attain noble gas configuration. The metal atom loses the valence electrons while non-metal atom accepts these electrons. By losing electrons, metal atoms change to cations and by accepting electrons, non-metals form anions. Ionic compounds are generally solid and exist in the form of crystal. They have high melting and boiling points.

1. Which of the following can change to a cation?
A. Fluorine B. Oxygen C. Potassium D. Neon

2. Which of the following can change to an anion?
A. Iodine B. Magnesium C. Calcium D. Xenon

3. Ionic compounds are soluble in _____.
A. Kerosene B. Petrol C. Water D. None of these

4. Which of the following statements is correct about ionic compounds?
I. They conduct electricity in solid state.
II. They conduct electricity in solutions.
III. They conduct electricity in molten state.

A. I only B. II only C. III only D. II and III only

5.Select the incorrect statement.
A. Ionic compounds are generally brittle
B. Ions are the fundamental units of ionic compounds
C. Formation of ionic bonds involve sharing of electrons
D.NaCl is an ionic compound.

- Question 1

  When the powder of a common metal is heated in an open china dish, colour turns black. However, when hydrogen gas is passed over the hot black substance formed, it regains its original colour. Based on this information, answer the following questions :

  (i) What type of chemical reaction takes place in each of the two given steps ?

  (ii) Name the metal initially taken in the powder form. Write balanced chemical equations for both these reactions.

- Question 2

  When a metal X is treated with cold water, it gives a basic salt Y With molecular formula XOH (molecular mass =40) and liberates a gas Z which easily catches fire. Identify X , Y and Z and also write the reaction involved.

- Question 3

  A student has been collecting silver coins and copper coins. One day she observed a black coating on silver coins and a green coating on copper coins. Which chemical phenomenon is responsible for these coatings ? Write the chemical names of black and green coatings ?

- Question 4

  You are provided with three metals : Sodium, magnesium and copper. Using only water as the reactant, how will you identify them ?

- Question 5

  An element reacts with oxygen to form an oxide which dissolves in dilute hydrochloric acid. The oxide formed also turns a solution of red litmus blue. Is the element a metal or a non-metal?

- Question 6

  An element E combines with oxygen to form an oxide E_2O which is a good conductor of electricity. Give the following information:

  (i) How many electrons will be present in the valence shell of the element E ?

  (ii) Write the formula of the compound formed when the element E combines with chlorine.

- Question 7

  An element A burns with golden flame in air. It reacts with another element B, atomic number 17 to give a product C. An aqueous solution of product C on electrolysis gives a compound D and liberates hydrogen. Identify A, B, C and D. Also write down the equations for the reactions involved.