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Grade :X	Subject : Chemistry	Date :
Name :	Empower-1 Worksheet	Chapter No. : 1,2 & 3

Q – 1 Answer the following question. 1mark each

1. Balance the given chemical equation: $FeSO_4(s) \rightarrow Fe_2O_3(s) + SO_2(g) + SO_3(g)$
2. Identify the type of reaction in the following example: $Na_2SO_4(aq) + BaCl_2(aq) \rightarrow BaSO_4(aq) + 2NaCl(aq)$
3. Identify the type of reaction in the following example: $Fe(s) + CuSO_4(aq) \rightarrow FeSO_4(aq) + Cu(s)$
4. State the main difference between an endothermic reaction and an exothermic reaction.
5. Write a chemical formula to represent the action of atmospheric CO_2 gas on bleaching powder when left exposed in open.
6. An element X on exposure to moist air turns reddish-brown and a new compound Y is formed. Identify X and Y.

Q – 2 Answer the following question. 2marks each

1. When the powder of a common metal is heated in an open china dish, its colour turns black. However, when hydrogen is passed over the hot black substance so formed, it regains its original colour. Based on the above 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 reactions.

2. What is an oxidation reaction? Identify in the following reactions: $ZnO + C \rightarrow Zn + CO$

(i) the substance oxidised and (ii) the substance reduced.

3. From amongst the metals sodium, calcium, aluminium, copper and mangnesium, name the metal (I) which reacts with metal only on boiling and (II) another which does not react even with steam.
4. What are amphoteric oxides? Choose the amphoteric oxides from- Na_2O, ZnO, Al_2O_3, CO_2, H_2O
5. Why is it that non-metals do not displace hydrogen from dilute acids?
6. Name the products obtained when sodium hydrogen carbonate is heated. Write the chemical equation for the same.
7. How does the flow of acid rain water into a river make the survival of aquatic life in the river difficult?

Q – 3 Answer the following question. 3marks each

1. 2 g of lead nitrate powder is taken in a boiling tube. The boiling tube is heated over a flame. Now answer the following:
   (a) State the colour of the fumes evolved and the residue left.
   (b) Name the type of chemical reaction that has taken place stating its balanced chemical equation.
2. (i) Classify the following reactions into different types:
   (a) $AgNO_3(aq) + NaCl(aq) \rightarrow AgCl(s) + NaNO_3(aq)$
   (b) $CaO(s) + H_2O(l) \rightarrow Ca(OH)_2(aq)$

   (ii) Which of the above reaction(s) is/are precipitation reaction(s)? Why is a reaction called precipitation reaction?
3. (a) Show on a diagram the transfer of electron between the atoms in the formation of MgO.
   (b) Name the solvent in which ionic compounds are generally soluble.

   (c) Why are aqueous solutions of ionic compounds able to conduct electricity?
4. 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.
5. Why does 1 M HCL solutions have a higher concentration of H^+ ions than 1M CH_3COOH solution?

Q – 4 Answer the following question. 5marks each

1. Identify the type of chemical reaction taking place in each of the following:

(i) Barium chloride solution is mixed with copper sulphate solution and a white precipitate is observed.

(ii) On heating copper powder in air in a China dish, the surface of copper powder turns black.

(iii) On heating green coloured ferrous sulphate crystals,reddish brown solid is left and smell of a gas having odour of burning sulphur is experienced.

(iv) Iron nails when left dipped in blue copper sulphate solution become brownish in colour and the blue colour of copper sulphate fades away.

(v) Quicklime reacts vigorously with water releasing a large amount of heat.

2. A non-metal A is an important constituent of our food and forms two oxides B and C. Oxide B is toxic whereas C causes global warming.
   (a) Identify A, B and C.
   (b) To which group of periodic table does A belong?
3. A metal 'X' loses two electrons and a non-metal 'Y' gains one electron. Show the electron dot structure of compound formed between them. Is ionic or covalent? Does it have high melting point or low? Will it conduct electricity in solid state or in aqueous solution and why? Will it be soluble in water? Identify X and Y.

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