

## METALS AND NON METALS WORKSHEET-3

### 1 MARK QUESTIONS :

**1. Name the following: (1 Mark each)**

- i) *The most abundant metal in the earth crust.*
- ii) *The only non-metallic element which exists as a liquid.*
- iii) *The process by which a metallic oxide ore changes into metal.*
- iv) *Minerals which can be profitably converted to metals.*

**2. Show the electronic transfer in the formation of following :(1 mark each)**

i) Sodium oxide ii) Calcium Hydride ii) (Magnesium chloride FOREIGN -2008)

( At.Nos. Na=11 , O=8 , Ca=20 , H=1 , Mg=12 , Cl=17 )

**3. Classify the following compounds into ionic & molecular compounds.**

(  $Fe_2O_3$  ,  $CO_2$  ,  $Mg_3N_3$  ,  $NH_3$  ,  $Li_2O$  ,  $K_3N$  ,  $HCl(g)$  ,  $C_6H_{12}O_6$  ,  $HCl(aq)$  ,  $CaO$  )

**4. Give reasons: (1 mark each) (DELHI 2008C,CBSE 2012)**

- i) Metals can be given different shapes according to our needs.
- ii) *Hydrogen is not evolved when a metal reacts with nitric acid.*
- iii) *Aluminium oxide is considered as an amphoteric oxide.*
- iv) Ionic compounds conduct electricity in molten state.
- v) Gold and silver are used to make jewellery.

**5. Why does calcium float in water ? (CBSE - 2011)**

### 2MARKS QUESTIONS

**6. Differentiate between & give suitable examples:**

i) *Acidic oxide & basic oxide* ii) *Minerals & Ores* iii) *Roasting & Calcination*

**7. Complete & balance the equations:**

i)  $K + H_2O \rightarrow \text{-----} + \text{-----}$  ii)  $Al + H_2O(\text{steam}) \rightarrow \text{-----} + \text{-----}$

iii)  $Fe + H_2O(\text{steam}) \rightarrow \text{----} + \text{-----}$  iv)  $Al_2O_3 + NaOH \rightarrow \text{-----} + \text{-----}$

**8.  $X + YSO_4 \rightarrow XSO_4 + Y$  (CBSE -2011)**

$Y + XSO_4 \rightarrow \text{No reaction}$

*Out of the two element, X and Y, which is more reactive and why ?*

**3MARKS QUESTIONS:****8. Give equations for the conversion of**

(i)Cinnabar to mercury (ii)Copper(I)sulphide to Copper (iii) Zinc carbonate to Zinc (iv)Manganese dioxide to Manganese (iv)Zinc sulphide to Zinc

9. a) Give a brief explanation of the electrolytic refining of impure Copper with a labelled diagram.

b)Name two alloys prepared from Copper & write their uses.

10. Four metals A,B,C&D are added to the following aqueous solutions one by one. The observations made are tabulated below.

| Metal | $FeSO_4$     | $CuSO_4$              | $ZnSO_4$    | $AgNO_3$              |
|-------|--------------|-----------------------|-------------|-----------------------|
| A     | No reaction  | Reddish brown deposit | -----       | -----                 |
| B     | Grey deposit | -----                 | No reaction | -----                 |
| C     | No reaction  | No reaction           | No reaction | White shining deposit |
| D     | No reaction  | No reaction           | No reaction | No reaction           |

Answer the following questions based on the above observations.

i)Which is the most active metal?

ii)What would be observed if B is added to aq. $CuSO_4$ ?

iii)Arrange the metals A, B, C & D in the increasing order of reactivity.

11. The atomic numbers of elements A, B & C are 11, 17 & 6 respectively.

i)which of these elements is a metal that forms mono positive ion ?

ii)which two elements combine through ionic valency.

iii) what is the formula of the compound between C & B.

12. A student collected some old coins of reddish & grayish colour. Within a few months she noticed that red ones turned green while the grayish ones turned black due to some coatings. Answer the following questions:

i) With what material are the coins made?

ii) Name the chemical phenomenon involved.

iii) Give the chemical name & formula of the coatings.

**13. Value based Question :**

Shivam helps his friend Rohan in studies. Shivam is topper in the class. Rohan also improved his performance. They like each other and they are friends.

a) What values are possessed by Shivam ?

b) What type of bond exists between Rohan and Shivam ?

c) Why are ionic bonds strong ?