

VERY SHORT ANSWER QUESTIONS (1 Mark)

1. Why do silver ornaments lose their shine when kept for some time? **[2010 (T-1)]**
2. Name a metal other than aluminium that is covered with an oxide film layer. **[2010 (T-1)]**
3. Name one metal and one non-metal which exist in liquid state at room temperature? **[2010 (T-1)]**
4. Name a non-metal which is lustrous and a metal which is non-lustrous. **[2010 (T-1)]**
5. Name two metals which have very low melting point. **[2010 (T-1)]**
6. If copper metal is heated over a flame, it develops a coating. What is the colour and composition of this coating? **[2010 (T-1)]**
7. Why is sodium metal kept immersed in kerosene oil? **[2010 (T-1)]**
8. Name one metal which reacts with very dilute HNO_3 to evolve hydrogen gas. **[2010 (T-1)]**
9. A non-metal X exists in two different forms Y and Z. Y is the hardest natural substance, whereas Z is a good conductor of electricity. Identify X, Y, and Z. **[2010 (T-1)]**
10. An element A forms two oxides AO and AO_2 . The oxide AO is neutral whereas the oxide AO_2 is acidic in nature. Would you call element A a metal or non-metal. **[2010 (T-1)]**
11. In the refining of silver the recovery of silver from silver nitrate solution involves displacement by copper metal. Give the reason for the same. **[2010 (T-1)]**
12. Name two metals which are both ductile as well as malleable. **[2005, 2006, 2010 (T-1)]**
13. The reaction of iron (III) oxide Fe_2O_3 with aluminium is used to join cracked iron parts of machines. **[2008]**
14. Give reason for the following:
(a) Ionic compounds conduct electricity in the molten state. **[2008]**
15. Give reason for the following:
Metals can be given different shapes according to our needs. **[2008]**
16. How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal? **[2008]**
17. Which reducing agent is used in the reduction of alumina? **[2007]**
18. What are metalloids? **[2006]**

- 19.** Why are titanium and chromium classified as strategic metals? **[2006]**
- 20.** Which one of the following metals does not react with oxygen even at high temperatures? (i) Calcium (ii) Gold (iii) Sodium **[2006]**
- 21.** Give reasons for the following :
Addition of some silver to pure gold for making ornaments. **[2006]**
- 22.** Give reason for the following:
Alumina is dissolved in molten cryolite for electrolysis to obtain aluminum metal. **[2006]**
- 23.** Write the chemical equation to represent the reaction taking place between sodium metal and cold water. **[2005]**
- 24.** Why is tungsten metal selected for making filaments of incandescent lamp bulbs? **[2005]**
- 25.** Name a metal which offers higher resistance to the passage of electricity than copper. **[2005]**
- 26.** Write the chemical equation for the reaction of hot aluminium with steam. **[2005]**
- 27.** How does the metal magnesium differ from the metal calcium in their reaction with water? **[2005]**
- 28.** What is seen to happen when a piece of sodium metal is dropped into water? **[2005]**

Previous year question Metal and non metal 2 Mark

- 1.** Aluminium occurs in combined state whereas gold is found in free state. Why? **[2010 (T-1)]**
- 2.** Most metals do not react with bases, but zinc metal does. Suggest a reason. Write an equation for the reaction between Zn and NaOH. **[2010 (T-1)]**
- 3.** Write chemical equations for the reactions taking place when **[2010 (T-1)]**
(i) zinc sulphide is heated in air
(ii) calcination of zinc carbonate is done.
- 4.** How pure copper is obtained from impure copper by electrolytic refining? **[2010 (T-1)]**
- 5.** 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, Z. **[2010 (T-1)]**

6. Write the equations for the following metals which are obtained from their compounds by reduction process. **[2010 (T-1)]**

(i) Metal X which is low in reactivity series. (ii) Metal Y which is middle of series.

7. Explain, why most of the metals do not displace hydrogen from Nitric acid. **[2010 (T-1)]**

8. Explain, why calcium metal after reacting with water starts floating on its surface? Write the chemical equation for the reaction. **[2010 (T-1)]**

9. Name the chemicals used in the acid fire extinguisher and the gas evolved from it when used? **[2010 (T-1)]**

10. State reasons for the following :

(i) Electric wires are covered with rubber like material.

(ii) From dilute hydrochloric acid zinc can liberate hydrogen gas but copper cannot. **[2009]**

11. State reasons for the following observations:

(i) The shining surface of some metals becomes dull when exposed to air for a long time.

(ii) Metal sulphides occur mainly in rocks but metal halides occur mostly in sea and lake. **[2009]**

12. Differentiate between roasting and calcination processes used in metallurgy. Give an example of each. **[2008]**

13. Give reason for the following:

(a) Gold and silver are used to make jewellery.

(b) Carbonate and sulphide ores are usually converted into oxides prior to reduction during the process of extraction. **[2008]**

14. With a labelled diagram describe an activity to show that metals are good conductors of electricity. **[2008]**

15. Name an alloy

(i) Which has a lower melting point than its constituents.

(ii) Which is more hard, tough and strong than its constituents. **[2007]**

16. Define the term 'alloy'. Write two advantages of making alloys. **[2007]**

17. State reasons for the following:

(i) Metals are good conductors of heat

(ii) Inability of non-metals for displacing hydrogen from dilute sulphuric acid. **[2006]**

18. Choose the metal (from the list given below) which can displace zinc from zinc sulphate solution- Lead, Copper, Magnesium, Silver. Write the equation of the chemical reaction involved. **[2006]**

19. A copper plate was dipped into a solution of AgNO_3 . After sometime, a black layer was deposited on the copper plate. State the reason for it. Write the chemical equation of the reaction involved. **[2006]**

Previous year board question Metal and non metal 5 marks

1. A non-metal A which is the largest constituent of air, when heated with H_2 in 1 :3 ratio in the presence of catalyst (Fe) gives a gas B. On heating with O_2 it gives an oxide C. If this oxide is passed into water in the presence of air it gives an acid D which acts as a strong oxidizing agent [HOTS]

(a) Identify A, B, C and D

(b) To which group of the periodic table does this non-metal belong?

2. What is galvanized iron? How is iron galvanised? What is the advantage of galvanized iron? How does galvanized iron get its name? State its two uses.

Previous year board question marks

Metal and non metal 3

1. Most metals do not react with bases but zinc metal does. Suggest a reason and write an equation for the reaction between zinc and NaOH . **[2010 (T-1)]**

2. A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by emission of light.

(a) Write the chemical formulae of X

(b) Write a balanced chemical equation, when X is dissolved in water. **[2010 (T-1)]**

3. Metal compound A reacts with dilute hydrochloric acid and to produce effervescence. The gas evolved extinguishes a burning candle and turns the limewater milky. Write balanced chemical equations for the reactions. **[2010 (T-1)]**

4. (a) Why metals are not found in their free state generally?

(b) If a strip of aluminum with scratched clean surface is dipped into an aqueous surface of the strip becomes brownish.

What is the reason for this? Write the balanced chemical equation for the reaction. **[2010 (T-1)]**

5. (a) What type of reaction is to be performed to ascertain and verify the position of metals in the reactivity series?

(b) If an iron nail immersed in the aqueous solution of copper sulphate, what are the changes happening to the nail and to the solution?

(c) Write the balanced chemical equation for the reaction between iron metal and aqueous copper sulphate solution. **[2010 (T-1)]**

6. (a) Using a simple experiment, how can you prove that magnesium is placed above zinc in reactivity series? **[2010 (T-1)]**

(b) Why copper metal cannot liberate hydrogen when reacting with dil. HCl?

7. Give reasons for the following : **[2009]**

(i) Zinc oxide is considered as an amphoteric oxide.

(ii) Non-metals in general do not displace hydrogen from dilute acids.

(iii) Metals conduct electricity.

8. An ore on heating in air produces sulphur dioxide. Which process would you suggest for its concentration? Describe briefly any two

steps involved in the conversion of this concentrated ore into the related metal. **[2009]**

9. What is meant by 'rusting'? With labeled diagrams describe an activity to find out the conditions under which iron rusts. **[2009]** (ii) Nitrogen is used to preserve food. **[2005]**

10. Give reasons for the following observations:

(i) Ionic compounds in general have high melting and boiling points

(ii) Highly reactive metals cannot be obtained from their oxides by heating them with carbon.

(iii) Copper vessels get a green coat when left exposed to air in the rainy season. **[2009]**

11. Name two metals which react violently with cold water. Write any three observations you would make when such a metal is dropped into water. How would you identify the gas evolved, if any, during the reaction? **[2008]**

12. (a) Give an example of a metal which **[2008]**

(i) can be easily cut with a knife

(ii) is a liquid at room temperature.

(b) Write chemical equation for the reaction when

(i) steam acts on red hot iron

(ii) zinc is added to iron (II) sulphate solution.

13. (a) Name a metal for each case :

(i) It does not react with cold as well shot water but reacts with steam.

(ii) It does not react with any physical state of water.

(b) When calcium metal is added to water the gas evolved does not catch fire but the same gas evolved on adding sodium metal to water catches fire. Why is it so? **[2008]**

14. (a) Name the chief ore of iron. Write its formula.

(b) How is an iron ore concentrated? Describe it briefly. **[2007]**

15. Give reasons for the following:

(i) Metals are regarded as electropositive elements.

(ii) When a piece of copper metal is added to a solution of zinc sulphate no change takes place, but the blue colour of copper sulphate fades away when a piece of zinc is placed in its solution.

(iii) Articles made of aluminium do not corrode even though aluminium is an active metal. **[2006]**

16. (i) Explain the term 'roasting' as used in metallurgical processes. Give one suitable example for it.

(ii) What changes take place when cinnabar (HgS) is heated in air for a long enough time? **[2006]**

17. Explain the following terms by giving one example of each: (i) Mineral (ii) Ore (iii) Gangue **[2006]**

18. Give reasons for each of the following:

(i) Germanium is called a metalloid. (ii) Zirconium is known as a strategic metal.