



CHEMISTRY

NCERT - NCERT CHEMISTRY(HINGLISH)

METALS AND NON-METALS

Exercise

1. Give an example of a metal which
 - (i) is a liquid at room temperature.
 - (ii) can be easily cut with a knife.

(iii) is the best conductor of heat.

(iv) is a poor conductor of heat



[Watch Video Solution](#)

2. Explain the meanings of malleable and ductile.



[Watch Video Solution](#)

3. Why is sodium kept immersed in kerosene oil?



[Watch Video Solution](#)

4. Write equations for the reactions of

(i) iron with steam

(ii) calcium and potassium with water



[Watch Video Solution](#)

5. Samples of four metals A, B, C and D were taken and added to the following solution one by one. The results obtained have been

tabulated as follows.

Metal	Iron (II) sulphate	Copper (II) sulphate	Zinc sulphate	Silver nitrate
A	No reaction	<i>Displacement</i>		
B	<i>Displacement</i>		No reaction	
C	No reaction	No reaction	No reaction	<i>Displacement</i>
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.



Watch Video Solution

6. Which gas is produced when dilute hydrochloric acid is added to a reactive metal?

Write the chemical reaction when iron reacts with dilute H_2SO_4 .



[Watch Video Solution](#)

7. What would you observe when zinc is added to a solution of iron (II) sulphate?

Write the chemical reaction that takes place.



[Watch Video Solution](#)

8. (i) Write the electron-dot structures for sodium, oxygen and magnesium.

(ii) Show the formation of Na_2O and MgO by the transfer of electrons.

(iii) What are the ions present in these compounds?



[Watch Video Solution](#)

9. Why do ionic compounds have high melting points?



[Watch Video Solution](#)

10. Define the following terms.

(i) Mineral

(ii) Ore

(iii) Gangue



[Watch Video Solution](#)

11. Name two metals which are found in nature in the free state.



Watch Video Solution

12. What chemical process is used for obtaining a metal from its oxide?



Watch Video Solution

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

Metal	Zinc	Magnesium	Copper
Zinc oxide			
Magnesium oxide			
Copper oxide			

In which cases will you find displacement reactions taking place?



[Watch Video Solution](#)

14. Which metals do not corrode easily?



[Watch Video Solution](#)

15. What are alloys?



[Watch Video Solution](#)

16. Which of the following pairs will give displacement reactions?

(i) $NaCl$ solution and copper metal

(ii) $MgCl_2$ solution and aluminium metal

(iii) $FeSO_4$ solution and silver metal

(iv) $AgNO_3$ solution and copper metal.

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.

Answer:



Watch Video Solution

17. 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 of the above

- A. Applying grease
- B. Applying paint
- C. Applying a coating of zinc
- D. All of the above

Answer: C



Watch Video Solution

18. An element reacts with oxygen to give a compound with a high melting point. This compound is also soluble in water. The

element is likely to be

(a) calcium

(b) carbon

(c) silicon

(d) iron

A. calcium

B. carbon

C. silicon

D. iron

Answer:



19. Food cans are coated with tin and not with zinc because

(a) zinc is costlier than tin.

(b) zinc has a higher melting point than tin.

(c) zinc is more reactive than tin.

(d) zinc is less reactive than tin

A. zinc is costlier than tin.

B. zinc has a higher melting point than tin.

C. zinc is more reactive than tin.

D. zinc is less reactive than tin.

Answer:



Watch Video Solution

20. You are given a hammer, a battery, a bulb, wires and a switch.

(a) How could you use them to distinguish between samples of metals and non-metals?

(b) Assess the usefulness of these tests in

distinguishing between metals and non – metals.



[Watch Video Solution](#)

21. What are amphoteric oxides? Give two examples of amphoteric oxides.



[Watch Video Solution](#)

22. Name two metals which will displace hydrogen from dilute acids, and two metals

which will not.



[Watch Video Solution](#)

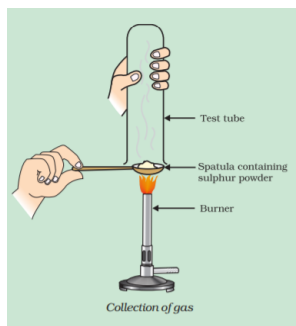
23. In the electrolytic refining of a metal M, what would you take as the anode, the cathode and the electrolyte?



[Watch Video Solution](#)

24. Pratyush took sulphur powder on a spatula and heated it. He collected the gas evolved by

inverting a test tube over it, as shown in figure below.



(a) What will be the action of gas on

(i) dry litmus paper?

(ii) moist litmus paper?

(b) Write a balanced chemical equation for the reaction taking place.



[Watch Video Solution](#)

25. State two ways to prevent the rusting of iron.



Watch Video Solution

26. What type of oxides is formed when non-metals combine with oxygen?



Watch Video Solution

27. Give reasons

(a) Platinum, gold and silver are used to make

jewellery.

(b) Sodium, potassium and lithium are stored under oil.

(c) Aluminium is a highly reactive metal, yet it is used to make utensils for cooking.

(d) Carbonate and sulphide ores are usually converted into oxides during the process of extraction.



Watch Video Solution

28. You must have seen tarnished copper vessels being cleaned with lemon or tamarind juice. Explain why these sour substances are effective in cleaning the vessels.



Watch Video Solution

29. Differentiate between metal and non-metal on the basis of their chemical properties.



Watch Video Solution

30. A man went door to door posing as a goldsmith. He promised to bring back the glitter of old and dull gold ornaments. An unsuspecting lady gave a set of gold bangles to him which he dipped in a particular solution. The bangles sparkled like new but their weight was reduced drastically. The lady was upset but after a futile argument the man beat a hasty retreat. Can you play the detective to find out the nature of the solution he had used?



Watch Video Solution

31. Give reasons why copper is used to make hot water tanks and not steel (an alloy of iron).



Watch Video Solution