



# CHEMISTRY

## BOOKS - MBD NCERT SOLUTIONS

### METALS AND NON-METALS

#### Multiple Choice Questions

1. The gas liberated when magnesium reacts with boiling water is :

A. Oxygen

B. Hydrogen

C. Carbon dioxide

D. Nitrogen

**Answer: B**



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2. The most abundant metal in earth's crust is

:

A. Copper

B. Iron

C. Aluminium

D. Zinc

**Answer: C**



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**3.** The metal extracted by the chemical reduction method is :

A. Sodium

B. Zinc

C. Calcium

D. Aluminium

**Answer: B**



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**4.** The metal extracted by the electrolysis method is :

A. Copper

B. Zinc

C. Sodium

D. Iron

**Answer: C**



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5. The metal can displace zinc from zinc sulphate solution :

A. Copper

B. Silver

C. Iron

D. Magnesium

**Answer: D**



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**6.** The process of heating the concentrated ore in the presence of excess of air and below its melting point is :

A. Calcination

B. Roasting

C. Smelting

D. Hydrolysis

**Answer: B**



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7. The impurities present in the ore are named

as :

A. Ore

B. Slag

C. Gangue

D. Flux

**Answer: C**



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**8.** The process of heating ore in the absence of air and below its melting point is called :



A. Roasting

B. Calcination

C. Smelting

D. Sublimation

**Answer: B**



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**9. Iron is galvanized by coating it with :**

A. Nickel

B. Copper

C. Chromium

D. Zinc

**Answer: D**



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**10. Amalgam is an alloy of :**

A. Copper and zinc

B. Metal and mercury

C. Sodium and potassium

D. Iron and Carbon

**Answer: B**



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## Very Short Answer Type Questions

1. Give an example of a metal which :

(i) is a liquid at room temperature :

(ii) can be easily cut with a knife ,

(iii) it is the best conductor of heat :

(iv) is a poor conductor of heat.



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2. Explain the meaning of malleable and ductile.



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3. Name the most abundant metal in the earth's crust.



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4. Which is the most lightest metal known to us ?



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5. Which non-metal is a good conductor of electricity ?



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6. What is an amalgam ?



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7. Which metal is used in semiconductor devices ?



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8. Metals generally occur in solid state. Name and write symbol of a metal that exists in

liquid state at room temperature.



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9. What is galvanization ?



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10. Write the equation for the reaction of (I) iron with steam (II) Calcium and Potassium with water.



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## Short Answer Type Questions

1. Why is sodium kept immersed in kerosene oil ?



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2. (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.



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3. Why do ionic compounds have high melting points ?



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4. Define the terms :

(a) mineral (b) ore and (c) gangue.



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



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



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7. Name two metals which will displace hydrogen from dilute acids, and two metals which will not.



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



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

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10. What type of oxides are formed when non-metal combine with oxygen ?

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11. 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.



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**12.** Give the difference between Ore and Mineral.



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**13.** What would you observe when Zinc is added to a solution of iron (II) Sulphate. Write the chemical reaction that takes place.



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**14.** What is rusting ? How does (i) the presence of impurities in the metal (ii) presence of electrolyte in water affect rusting ?



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**15.** 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.



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**16.** Differentiate between metals and non-metals on the basis of their chemical properties.



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**17.** Give the reason why copper is used to make hot water tanks but steel (an alloy of iron) is not.



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**18.** What is a thermite reaction (process) ?

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**19.** Differentiate between roasting and calcination.

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**20.** What are amphoteric oxides ? Give two examples of amphoteric oxides.



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21. What is meant by reactivity series of metals ? What is the reason for different reactivities of metals ?



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22. What is an alloy ? Name the alloys and their constituents used for : (i) making aeroplanes (ii) soldering.





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23. Write electronic configuration of some elements.



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24. Why copper articles become green after some time ? Name any two alloys of copper.



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**25.** Why silver articles become black after long time ? Why pure gold is not used in jewellery ?



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**26.** Name the metals which exist in free state and which exist in combined state.



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**27.** Explain the extraction of reactive metals.



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**28.** What happens when metals are burnt in air ?



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**29.** Write short note on electrolytic refining of metals.



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**30.** What happens when metals react with acids ? Give one example.



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**31.** What happens when metals react with water ? Give one example.



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**32.** What happens when water soluble metals oxides are dissolved in water ? Give one example.



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## Long Answer Type Questions

**1.** Differentiate between metals and non-metals (Based on Physical Properties).



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2. Discuss the important properties of ionic compounds.

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3. Explain the extraction of metals low in activity series.

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4. Explain the extraction of metals in the middle of activity series.



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5. Explain the extraction of metals towards the top of the activity series.



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6. What is anodising ? How is it used to prevent aluminium from corrosion ?



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7. Explain reactivity series with example.



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