



# CHEMISTRY

## BOOKS - BAL BHARTI

### METALLURGY

**Try Out And Think About It**

1. Test whether the metals gold, silver and copper react with water and think over the finding.



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## Think About It

1. Explain the following:

Why do silver articles turn blackish while copper vessels turn greenish on keeping in air for a long time?



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2. Answer the following questions:

Why do pure gold and platinum always glitter?



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## Can You Tell

1. What are the physical properties of metals and nonmetals?



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2. Answer the following in one or two sentences

What are the moderately reactive metals?



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3. Answer the following in one or two sentences

In which form do the moderately reactive metals occur in nature?



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4. Answer the following in one or two sentences

Which measures would you suggest to stop the corrosion of metallic articles or not to allow the corrosion to start?



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5. Answer the following questions:

What is done so to prevent rusting of iron windows and iron doors of your house?





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## Can You Recall

1. Answer the following in one or two sentences

What is the electronic definition of oxidation and reduction?



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2. Answer the following in one or two sentences

What is meant by corrosion?



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**Use Your Brain Power**

1. In the reaction between chlorine and HBr transformation of HBr into  $\text{Br}_2$  takes place. Can this transformation be called oxidation?

Which is the oxidant that brings about this oxidation?



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2. Answer the following questions:

Write the electrode reaction for electrolysis of molten magnesium chloride and calcium chloride .



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### 3. Explain the following:

Can we permanently prevent the rusting of an iron article by applying a layer of paint on its surface?



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## Exercise

1. Alloy of sodium with mercury.



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2. Molecular formula of the common ore of aluminium



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3. The oxide that forms salt and water by reacting with both acid and base



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4. The device used for grinding an ore.



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5. The non-metal having electrical conductivity



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6. Name the following :

The reagent that dissolves noble metals.



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7. Match the columns:

Substance	Property
(1) Potassium bromide	(a) Combustible
(2) Gold	(b) Soluble in water
(3) Sulphur	(c) No chemical reaction
(4) Neon	(d) High ductility



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8. Identify the pairs of metals and their ores from the following.

Group A

Group B

a. Bauxite

i. Mercury

b. Cassiterite

ii. Aluminium

c. Cinnabar

iii. Tin



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**9. Answer the following questions:**

Explain the following terms: Metallurgy



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**10. Explain the terms.**

Ores



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**11.** Explain the terms.

Minerals



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**12.** Explain the terms.

Gangue



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**13.** Give scientific reasons:

Lemon or tamarind is used for cleaning copper vessels turned greenish



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**14.** Generally the ionic compounds have high melting points



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**15.** Give scientific reasons:

Sodium is always kept in kerosene



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**16.** Give scientific reasons for the following:

Pine oil is used in the froth floatation process.



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17. Anodes need do be replaced from time to time during the electrolysis of alumina



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18. Explain the following:

When a copper coin is dipped in silver nitrate solution, a glitter appears on the coin after some time, Why does this happen? Write the chemical equation.



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**19.** Explain the following:

The electronic configuration of metal A is 2,8,1 and that of metal B is 2,8,2. Which of the two metals is more reactive? Write their reaction with dilute hydrochloric acid.



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**20.** Draw a neat and labelled diagram

Magnetic separation method



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**21. Draw a neat and labelled diagram**

Froth floatation method



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**22. Draw a neat labelled diagram.**

Electrolytic reduction of alumina.



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**23.** Draw a neat and labelled diagram

Hydraulic separation



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**24.** Write chemical equation for the following events:

Aluminium comes in contact with air.



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**25.** Write chemical equation for the following events:

Iron filings are dropped in aqueous solution of copper sulphate



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**26.** Write chemical equation for the following events:

A reaction was brought about between ferric oxide and aluminium





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**27.** Write chemical equation for the following events:

Electrolysis of alumina is done.



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**28.** Write chemical equation for the following events:

Zinc oxide is dissolved in dilute hydrochloric acid



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**29.** Complete the following statement using every given options.

During the extraction of aluminium.....

A. Ingredients and gangue in bauxite.

B. Use of leaching during the concentration of ore.

C. Chemical reaction of transformation of bauxite into alumina by Hall's process.

D. Heating the aluminium ore with concentrated caustic soda.

**Answer:**



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**30.** Answer the following questions:

Divide the metals Cu, Zn, Ca, Mg, Fe, Na, Li into three groups, namely, reactive metals, moderately reactive metals and less reactive metals.





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