



## CHEMISTRY

### BOOKS - DISHA CHEMISTRY (HINGLISH)

## GENERAL PRINCIPLES AND PROCESSES OF ISOLATION OF ELEMENTS

Mcq

1. Bronze is a mixture of

A.  $\text{Pb} + \text{Sn}$

B.  $\text{Cu} + \text{Sn}$

C. Cu+Zn

D. Pb+Zn

**Answer: B**



**View Text Solution**

2. Which of the following pair is incorrectly matched ?

A. Magnetite –  $Fe_3O_4$

B. Copper glance –  $Cu_2S$

C. Calamine –  $ZnCO_3$

D. Zincitic-ZnS

**Answer: D**



3. Which of the following factors is of no significance for roasting sulphide ores to the oxides and not subjecting the sulphide ores to carbon reduction directly ?

- A. Metal sulphides are thermodynamically more stable than  $CS_2$
- B.  $CO_2$  is thermodynamically more stable than  $CS_2$
- C. Metal sulphides are less stable than the corresponding oxides
- D.  $CO_2$  is more volatile than  $CS_2$

**Answer: C**



[View Text Solution](#)

4. Aluminothermic process is used for the extraction of metals, whose oxides are

- A. fusible
- B. not easily reduced by carbon
- C. not easily reduced by hydrogen
- D. strongly basic.

**Answer: B**



[View Text Solution](#)

5. Which reagent is used in Bayer's process ?

A.  $Na_2CO_3$

B. Carton

C. NaOH

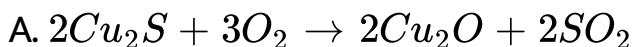
D. Silica

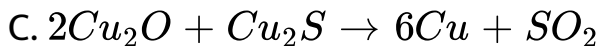
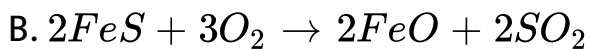
**Answer: C**



[View Text Solution](#)

6. Which of the following reaction takes place in blast furnace during extraction of copper ?





D. All of these

**Answer: D**



**View Text Solution**

7. When an aqueous solution of sodium chloride is electrolysed using platinum electrodes, the ions discharged at the electrodes are

A. sodium and hydrogen

B. sodium and chloride

C. hydrogen and chloride

D. hydroxyl and chloride

**Answer: C**



**View Text Solution**

**8.** Which of the following elements is present as the impurity to the maximum extent in the pig iron ?

A. Manganese

B. Carbon

C. Silicon

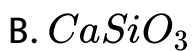
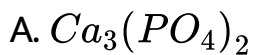
D. Phosphorus

**Answer: B**

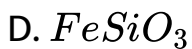


[View Text Solution](#)

9. Thomas slag is



C. Mixture of (a) and (b)



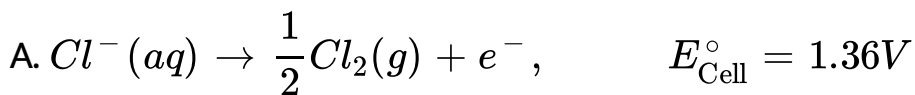
**Answer: C**



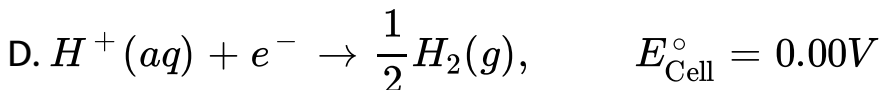
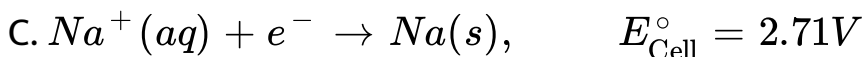
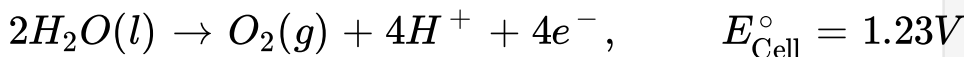
[View Text Solution](#)



10. Brine is electrolysed by using inert electrodes. The reaction at anode is \_\_\_\_\_.



B.



**Answer: A**



[View Text Solution](#)

11. Pb and Sn are extracted from their chief ore by

- A. carbon reduction and self reduction.
- B. self reduction and carbon reduction
- C. electrolysis and self reduction
- D. self reduction and electrolysis.

**Answer: B**



**View Text Solution**

**12.** In the commercial electrochemical process for aluminium extraction the electrolyte used is

- A.  $Al(OH)_3$  in NaOH solution
- B. An aqueous solution of  $Al_2(SO_4)_3$

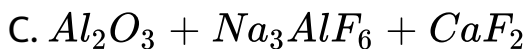
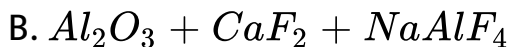
C. A molten mixture of  $Al_2O_3$  and  $Na_3AlF_6$

D. A molten mixture of  $Al_2O_3$  and  $Al(OH)_3$

**Answer: C**

 [View Text Solution](#)

**13.** Aluminium is extracted from alumina ( $Al_2O_3$ ) by electrolysis of a molten mixture of



Answer: C

 [View Text Solution](#)

14. A coupled reaction is takes place as follow



for the spontancity of reaction  $A + B + E \rightarrow C + F$ ,

which of the following is correct ?

A.  $2x=y$

B.  $x < y$

C.  $x > y$

D.  $x = (y) \times T\Delta S$

**Answer: B**

 [View Text Solution](#)

**15.** The most electropositive metals are isolated from their ores by

- A. high temperature reduction with carbon
- B. self reduction
- C. thermal decomposition
- D. electrolysis of fused ionic salts

**Answer: D**

 [View Text Solution](#)

**16.** Which of the following pairs of metals is purified by van Arkel method ?

A. Ga and In

B. Zr and Ti

C. Ag and Au

D. Ni and Fe

**Answer: B**



**View Text Solution**

**17.** Match list I with list II and select the correct answer using the codes given below the lists :

List I

List II

- A. Cyanide process
- B. Flootation process
- C. Electrolytic reduction
- D. Zone refining

- I. Ultrapure Ge
- II. Pincoil
- III. Extraction of Al
- IV. Extraction of Au

A. A-III, B-I, C-IV, D-II

B. A-IV, B-II, C-III, D-I

C. A-III, B-II, C-IV, D-I

D. A-IV, B-I, C-III, D-II

**Answer: B**



[View Text Solution](#)

**18. Blister copper is**

A. Impure Cu

B. Cu alloy

C. Pure Cu

D. Cu having 1% impurity

**Answer: D**



**View Text Solution**

**19. Electrometallurgical process is used to extract**

A. Fe

B. Pb

C. Na



D. Ag

**Answer: C**

 [View Text Solution](#)

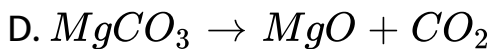
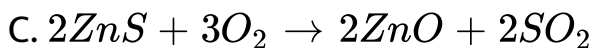
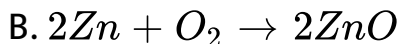
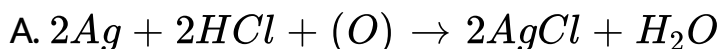
20. Sulphide ores of metals are usually concentrated by froth flotation process. Which one of the following sulphide ores offer an exception and concentrated by chemical leaching?

- A. Galena
- B. Copper pyrite
- C. Sphalerite
- D. Argentite

**Answer: D**

 [View Text Solution](#)

**21.** Which of the following reactions is an example for calcination process ?



**Answer: D**

 [View Text Solution](#)

22. In the metallurgy of Zn, Zn dust obtained from roasting and reduction of zinc sulphide contains some ZnO. It is removed by

A. absorbance of ultraviolet light- and reemission of white light

B. shock cooling by contact with a shower of molten lead.

C. X-ray method

D. smelting.

**Answer: D**



**View Text Solution**

23. The electrolytic reduction technique is used in the extraction of

- A. highly electronegative elements
- B. highly electropositive elements
- C. metalloids
- D. transition metals

**Answer: B**



[View Text Solution](#)

24. Which of the following metal is leached by cyanide process

A. Ag

B. Na

C. Al

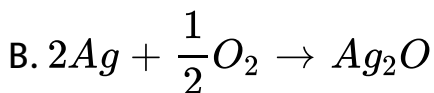
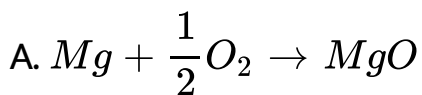
D. Cu

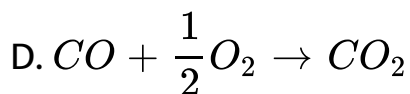
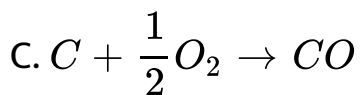
**Answer: A**



[View Text Solution](#)

25.  $\Delta G^\circ$  vs T plot in the Ellingham's diagram slopes downward for the reaction





**Answer: C**

 [View Text Solution](#)

**26.** Process followed before reduction of carbonate ore is

A. calcination

B. roasting

C. liquation

D. polling

**Answer: A**



[View Text Solution](#)

27. Which of the following metal is used in the manufacture of dye-stuffs and paints ?

A. Copper

B. Zinc

C. Aluminium

D. Magnesium

**Answer: B**



[View Text Solution](#)

28. Silver containing lead as an impurity is removed by

A. poling

B. cupellation

C. lavigation

D. distillation

**Answer: B**



[View Text Solution](#)

29. Among the following groups of oxides, the group containing oxides that cannot be reduced by carbon to give the respective metals is



A.  $Cu_2O$ ,  $SnO_2$

B.  $Fe_2O_3$ ,  $ZnO$

C.  $CaO$ ,  $K_2O$

D.  $PbO$ ,  $Fe_3O_4$

**Answer: C**



**View Text Solution**

**30.** Which of the following condition favours the reduction of a metal oxide to metal ?

A.  $\Delta H = +ve$ ,  $T\Delta S = +ve$  at low temperature

B.  $\Delta H = +ve$ ,  $T\Delta S = -ve$  at any temperature

C.  $\Delta H = -ve, T\Delta S = -ve$  at high temperature

D.  $\Delta H = -ve, T\Delta S = +ve$  at any temperature

**Answer: D**

 [View Text Solution](#)

**31.** In the extraction of copper from its sulphide ore, the metal is finally obtained by the reduction of cuprous oxide with :

A. Copper (I) sulphide ( $Cu_2S$ )

B. Sulphur dioxide ( $SO_2$ )

C. Iron sulphide (FeS)

D. Carbon monoxide (CO)

**Answer: A**



**View Text Solution**

**32.** In electro-refining of metal the impure metal is made the anode and a strip of pure metal, the cathode, during the electrolysis of an aqueous solution of a complex metal salt. This method cannot be used for retining of

A. silver

B. copper

C. aluminium

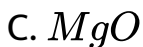
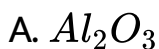
D. sodium

**Answer: D**



[View Text Solution](#)

33. According to Ellingham diagram, the oxidation reaction of carbon to carbon monoxide may be used to reduce which one of the following oxides at the lowest temperature ?



**Answer: B**



[View Text Solution](#)

34. Hematite is the ore of

A. Pb

B. Cu

C. Fe

D. Au

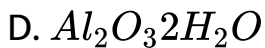
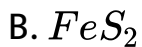
**Answer: C**



**View Text Solution**

35. Which of the following is chalcopyrite ?

A.  $CuFeS_2$



**Answer: A**



**View Text Solution**

**36. Main function of roasting is**

A. to remove volatile substances

B. oxidation

C. reduction

D. slag formation

**Answer: A**



**View Text Solution**

**37.** Method used for obtaining highly pure silicon used as a semiconductor material, is

- A. Oxidation
- B. Electrochemical
- C. Crystallization
- D. Zone refining

**Answer: D**



**View Text Solution**

**38.** After partial roasting the sulphide of copper is reduced by

- A. cyanide process
- B. electrolysis
- C. reduction with carbon
- D. self reduction

**Answer: D**



**View Text Solution**

**39.** Cast iron is



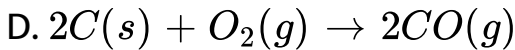
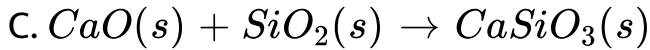
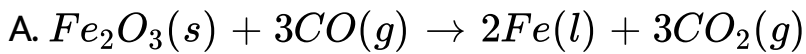
- A. made by melting pig iron with scrap iron and coke using hot air blast
- B. having slightly lower carbon content (about 3%) as compared to pig iron
- C. extremely hard and brittle
- D. All of the above statements are true

**Answer: D**



[View Text Solution](#)

**40.** The following reactions take place in the blast furnace in the preparation of impure iron. Identify the reaction pertaining to the formation of the slag.



**Answer: C**



**View Text Solution**

**41.** Before introducing FeO in blast furnace, it is converted to  $Fe_2O_3$  by roasting so that

A. it may not be removed as slag with silica

B. it may not evaporate in the furnace

C. presence of it may increase the m pt. of charge

D. None of these

**Answer: A**

 [View Text Solution](#)

**42.** When a metal is to be extracted from its ore and the gangue associated with the ore is silica, then

A. an acidic flux is needed

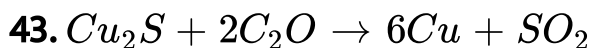
B. a basic flux is needed

C. both acidic and basic fluxes are needed

D. Neither of them is needed

**Answer: B**

 [View Text Solution](#)



In which process of metallurgy of copper, above equation is involved ?

- A. Roasting
- B. Self reduction
- C. Refining
- D. Purification

**Answer: B**

 [View Text Solution](#)

44. When the sample of copper with zinc impurity is to be purified by electrolysis, the appropriate electrodes are

- A. Cathode    Anode  
   pure zinc    pure copper
- B. Cathode            Anode  
   impure sample    pure copper
- C. Cathode    Anode  
   impure zinc    impure sample
- D. Cathode    Anode  
   pure copper    impure sample

**Answer: D**



[View Text Solution](#)