CHEMISTRY

BOOKS - CHETANA CHEMISTRY (MARATHI ENGLISH)

Metallurgy

Exersice

1. The metallic lustre__due to exposure

A. increases

B. decreases

C. remains the same

D. first decrease then increases

Answer:

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2. The metals that produce a sound on strikng on hard surface are said tobe_____.

A. malleable

B. good conductors

C. ductile

D. sonorous

Answer:

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3. The ability of metals to be drawn into wires is called____.

A. ductility

B. hardness

C. malleability

D. sonority

Answer:

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4. Metal tungsten has the highest melting point_____.

A. $4322^{\circ} C$

B. $3242^{\circ} C$

C. $3242^{\circ} C$

D. $3242^{\circ} C$

Answer:

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5. Non-metal bromine exists____

A. solid state

B. plasma state

C. liquid state

D. gaseous state

Answer:

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6. _____is the hardest natural subtance.

A. Lithium

B. Diamond

C. Sodium

D. potassium

Answer:

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7. The metals, aluminium,iron and zinc react withy _____to form their oxides.

A. steam

B. water

C. carbon dioxide

D. ozone

Answer:

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8. _____is a highly corrosive and fuming liquid.

A. acetic acid

B. distilled water

C. aqua regia

D. aerated water

Answer:

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9. The science and techonoly regarding the extraction of metals from ores and their purification for the use is called____.

A. refining

B. calcination

C. roasting

D. metallurgy

Answer:

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10. Aluminium is extracted from its ore____

A. cyolite

B. bauxite

C. cinnabar fluorspar

D.

Answer:

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11. In_____process carbonate ores are strongly heated.

A. roasting

B. electrolysis

C. calcination

D. leaching

Answer:

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12. In_____process sulphide ores are strongly heated.

A. refining

B. roasting

C. calcination

D. electrolysis

Answer:

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13. Anodizing is a process of forming a thick layer of _____.

A. aluminium oxide

B. sodium oxide

C. magnesium oxide

D. potassium oxide

Answer:

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14. If one of the metla is mercury then the alloy is known as_____.

A. hydrargyrum

B. metalloid

C. amalgam

D. brozone

Answer:

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15. Copper reacts with moist carbon dioxide in the air and slowly loses its shine to gain a green coat of ____.

A. copper sulphate

B. copper nitrate

C. copper oxide

D. copper carbonate

Answer:

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16. _____is not a metalloid.

A. silicon

B. antimony

C. germanium

D. aluminium

Answer:

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17. _____has the highest melting point.

A. tungsten

B. copper

C. iron

D. zinc

Answer:

Watch Video Solution

18. ___is the most reactive metal

A. potassium

B. magnesium

C. calcium

D. sodium

Answer:

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19. _____is the formula of cuprite

A. Cu_2O

B. Cu_2S

C. $CuCO_3$

D. $CuCl_2$

Answer:

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20. Cassiterite is an ore of _____

A. copper sulphate

B. silver

C. calcium

D. tin

Answer:

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21. Metal oxides are generally ___in nature

A. acidic

B. basic

C. neither acidic nor basic

D. both acidic and basic

Answer:

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22. _____is a non metal which conducts electricity.

A. diamond

B. iodine

C. carbon

D. graphite

Answer:

Watch Video Solution

23. _____is an oxide which is amphoteric

A. copper oxide

B. magnesium dioxide

C. zinc oxide

D. calcium oxide

Answer:

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24. The reactivity of metals with dil HCI in decreasing order is _____

A. $Mg > Zn > Al > Fe$

B. $Mg > Al > Zn > Fe$

C. $Fe > Zn > Al > Mg$

D. $Fe > Al > Zn > Mg$

Answer:

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25. Cinnabar is an ore of _____.

A. aluminium

B. sodium

C. iron

D. mercury

Answer:

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26. The main constituent of bauxite is _____.

A. Al_2O_3

B. $Al_2(SO_4)_3$

C. $CaSO_4$

D. Na_3AlF_6

Answer:

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27. Which method is used for the purification of more reactive metals?

A. chemical reduction

B. roasting

C. calcination

D. electrolytic reduction

Answer:

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28. Substance used to decrease the melting point of alumina in Hall's process is _____.

A. $CuSO_4$

B. Cryolite

C. gypsum

D. Limonite

Answer:

Watch Video Solution

29. Galvanisation is a method of protecting iron from rusting by coating it with a thin layer of _____

A. aluminium

B. tin

C. silver

D. zinc

Answer:

Watch Video Solution

30. Copper reacts with moist carbon dioxide in the air and slowly loses its shine to gain a green coat of ____.

A. copper oxide

B. iron oxide

C. copper carbonateq

D. none of the above

Answer:

Watch Video Solution

31. ___ reacts with dil HNO_3 to evolve hydrogen gas.

A. iron and copper

B. manganese and magnesium

C. zinc and manganese

D. aluminium and magnesium

Answer:

32. Silver articles become black on prolonged exposure to air. This is due to the formation of _____.

A. Ag_3NO_3

B. Ag_2O

C. Ag_2S

D. Ag_2S and Ag_3NO_3

Answer:

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33. In Tinnning a layer of molten___is deposited on metlas

A. zinc

B. iron

C. tin

D. copper

Answer:

Watch Video Solution

34. State whether the following statements are true or false, correct the false statements.

In the alloy, if one of the metals is mercury then, it is known as amalgam.

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35. State whether the following statements are true or false, correct the false statements.

In the process of 'Kalhaee' a metal is coated with zinc to prevent its corrosion.

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36. State whether the following statements are true or false, correct the false statements.

Nitric acid is a strong oxidizing agent.

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37. State whether the following statements are true or false, correct the false statements.

Non-metals react with acids to give a salt and hydrogen gas.

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38. State whether the following statements are true or false, correct the false statements.

The elements or compounds which occur naturally in the earth's crust are known as minerals.

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39. State whether the following statements are true or false, correct the false statements.

Alloys are resistant to corrosion

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40. State whether the following statements are true or false, correct the false statements.

Non-metals are good conductors of heat and electricity.

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41. State whether the following statements are true or false, correct the false statements.

Metals gain electrons and become negatively charged ions

Watch Video Solution

42. State whether the following statements are true or false, correct the false statements.

Metal iron is more reactive than metal copper

Watch Video Solution

43. State whether the following statements are true or false, correct the false statements.

Non-metals combine with oxygen to form basic oxides.

Watch Video Solution

44. State whether the following statements are true or false, correct the false statements.

The minerals from which the metals can be separated economically are called ores.

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45. State whether the following statements are true or false, correct the false statements. Stannic oxide (SnO_2) is magnetic and ferrous tungstate (FeWO_4)` is a non-magnetic ingredient

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46. State whether the following statements are true or false, correct the false statements.

Ore contains some impurities, these are called gangue.

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47. State whether the following statements are true or false, correct the false statements.

The process of separating gangue from the ores is called concentration of ores

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48. State whether the following statements are true or false, correct the false statements.

The reactivity of metals increases down to reactivity series

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49. State whether the following statements are true or false, correct the false statements.

Electronic configuration of aluminium is 2,8,2.

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50. State whether the following statements are true or false, correct the false statements.

Cryolite (Na_3AlF_6) and Fluorspar (CaF_2) are used to increase the melting point of alumina.

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51. State whether the following statements are true or false, correct the false statements.

Electrolysis is the method used to obtain pure metals from impure metals

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52. State whether the following statements are true or false, correct the false statements. The process of converting sulphide ores into oxides by heating strongly in excess of air is called calcination

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53. State whether the following statements are true or false, correct the false statements.

Iodine is lustrous metal.

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Example

1. Select the odd man out

Copper, Gallium, Gold, Silver.

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2. Select the odd man out

Silver, Gold, Platinum, Calcium

Watch Video Solution

3. Select the odd man out

$K_2O, Na_2O, CaO, Al_2O_3$

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4. Select the odd man out

Malleability, Ductility, Brittleness, Luster

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5. Select the odd man out

Graphite, Iodine, Silver, Phosphorous

Watch Video Solution

6. Select the odd man out

Sodium oxide, Zinc oxide, Potassium oxide, Magnesium oxide.

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7. Select the odd man out

Steel, Iron, Copper, Tungsten

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8. Select the odd man out

Galvanizing, Tinning, Anodizing, Roasting

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9. Select the odd man out

Brass, Bronze, Steel, Antimony.

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10. Find out the correlations:

Metal:Reducing agent:: Non-metal:_____

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11. Find out the correlations:

Brass:Copper and zinc : : Brozne:_____

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12. Find out the correlations:

Aluminium : Bauxite : : Mercury:_____

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13. Find out the correlations:

Cryolite : Na_3AlF_6 : : Fluorspar :_____

Watch Video Solution

14. Find out the correlations:

Alumina : Al_2O_3:: Sodium aluminate:_____

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15. Find out the correlations:

Coating of tin over metal:Tinning:: Coating of zinc over iron:___

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16. 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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17. Match the columns:

Column A		Column B	
(1)	Bauxite	(a)	Mercury
(2)	Cassiterite	(b)	Aluminium
(3)	Cinnabar	(c)	Tin

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18. Match the columns:

Column A		Column B	
(1)	React vigorously with cold water.	(a)	Silver and Copper
(2)	React with hot water	(b)	Iron and Zinc
(3)	React with steam	(c)	Calcium
(4)	React less vigorously with cold water	(d)	Sodium and Potassium
(5)	Do not react with water	(e)	Magnesium

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19. Alloy of sodium with mercury.

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20. Molecular formula of the common ore of aluminium

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21. The oxide that froms salt and water by reacting with both acid and base

Watch Video Solution

22. The device used for grinding an ore.

Watch Video Solution

23. The non-metal having electrical conductivity

Watch Video Solution

24. The reagent that dissolves noble metals.

Watch Video Solution

25. An alloy of copper and zinc

Watch Video Solution

26. A metal which does not react with cold water but reacts with steam

Watch Video Solution

27. The most lustrous substance

Watch Video Solution

28. an ore of mercury

Watch Video Solution

29. The process used for heating of carbonate ores

Watch Video Solution

30. The metal which is the least reactive in the reactivity series

 Watch Video Solution

31. ___is the most reactive metal

 Watch Video Solution

32. Alloy of copper and tin

 Watch Video Solution

33. Define the following:

Minerals

 Watch Video Solution

34. Define the following:

Ores

 Watch Video Solution

35. Define the following:

Gangue

Watch Video Solution

36. Define the following:

Metallurgy

Watch Video Solution

37. Define the following:

Roasting

38. Define the following:

Calcination

39. Define the following:

Reduction

Watch Video Solution

40. Define the following:

Galvanizing

Watch Video Solution

41. Define the following:

Electroplating

 Watch Video Solution

42. Define the following:

Anodization

 Watch Video Solution

43. Define the following:

Tinning

Watch Video Solution

44. Define the following:

Alloy

Watch Video Solution

45. Define the following:

Ionic compounds

Watch Video Solution

46. Define the following:

Hydraulic Separation method

Watch Video Solution

47. Define the following:

Magentic Separation

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48. Write chemical equation for the following events:

Aluminium comes in contact with air.

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49. Write chemical equation for the following events:

Iron filings are dropped in aqueous solution of copper sulphate

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50. Write chemical equation for the following events:

A reaction was brought about between ferric oxide and aluminium

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51. Write chemical equation for the following events:

Electrolysis of alumina is done.

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52. Write chemical equation for the following events:

Zinc oxide is dissolved in dilute hydrochloric acid

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53. Write chemical equation for the following events:

When steam is passed over aluminium

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54. Write chemical equation for the following events:

Extraction of copper from its sulphide ore.

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55. Write chemical equation for the following events:

When sodum oxide dissolves in water

Watch Video Solution

56. Write chemical equation for the following events:

Copper reacts with concentrated nitric acid

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57. Write chemical equation for the following events:

Copper reacts with dilute nitric acid.

Watch Video Solution

58. Write chemical equation for the following events:

Aluminium oxide reacts with sodium hydroxide.

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59. Answer the following in one or two sentences

Name the categories into which metals can be classified based on their reactivity

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60. Answer the following in one or two sentences

Which metals are available in free state in nature?

 Watch Video Solution

61. Answer the following in one or two sentences

In what form are ores/minerals genrally found in nature?

 Watch Video Solution

62. Answer the following in one or two sentences

Which impurities of bauxite ore are removed by Bayer's process?

Watch Video Solution

63. Answer the following in one or two sentences

On what does the process of metallurgy depend?

Watch Video Solution

64. Answer the following in one or two sentences

What is concentration of ore?

Watch Video Solution

65. Answer the following in one or two sentences

Write the cathode reaction in electrolytic reduction of alumina

Watch Video Solution

66. Answer the following in one or two sentences

Name the two properties on which Forth floatation method is based

Watch Video Solution

67. Answer the following in one or two sentences

What is the principle of froth floatation process?

 Watch Video Solution

68. Answer the following in one or two sentences

What is the principle of magnetic separation method?

 Watch Video Solution

69. Answer the following in one or two sentences

Write an equation for the action of heat on aluminium hydroxide

Watch Video Solution

70. Answer the following in one or two sentences

What is the purpose of roasting in metallurgy?

Watch Video Solution

71. Answer the following in one or two sentences

What acts as cathode in electrolytic reduction of AI_2O_3?

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72. Answer the following in one or two sentences

What works as a electrolyte in Hall's cell?

Watch Video Solution

73. Answer the following in one or two sentences

What is reactivity series of metals?

 Watch Video Solution

74. Answer the following in one or two sentences

What is the nature of the oxides of metals?

 Watch Video Solution

75. Answer the following in one or two sentences

In the extraction of aluminium,name the process of concentratin of Bauxite.

Watch Video Solution

76. Answer the following in one or two sentences

State the chemical compostion of Bauxite.

Watch Video Solution

77. Answer the following in one or two sentences

What do you mean by amphoteric oxides?

Watch Video Solution

78. Answer the following in one or two sentences

Why is hydrogen gas not libereated when

metals (except Mn and Mg) are treated with HNO_3?

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79. Answer the following in one or two sentences

What is the electronic definition of oxidation and reduction?

Watch Video Solution

80. Answer the following in one or two sentences

What are the moderately reactive metals?

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81. Answer the following in one or two sentences

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

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82. Answer the following in one or two sentences

What is meant by corrosion?

Watch Video Solution

83. 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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84. Answer the following in one or two sentences

What is done so to prevent rusting of iron windows and iron doors of you houseA?

Watch Video Solution

85. Answer the following in one or two sentences

Which method do we use when we want to study many things together and at the same time?

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86. Distinguish between

Metals and non-metals.(based on physical properties)

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87. Distinguish between

Metals and non_metals (based on chemical proeprties)

Watch Video Solution

88. Distinguish between

Calcination and roasting.

Watch Video Solution

89. Distinguish between

Atoms and ions

Watch Video Solution

90. Distinguish between

Cations anions

Watch Video Solution

91. Give scientific reasons:

Lemon or tamarind is used for cleaning copper vessels turned greenish

Watch Video Solution

92. Give scientific reasons:

Sodium is always kept in kerosene

Watch Video Solution

93. Give scientific reasons:

Pine oil is used in Forth floation

Watch Video Solution

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

Watch Video Solution

95. Give scientific reasons:

Gold and silver are used to make jewellery.

Watch Video Solution

96. Give scientific reasons:

Aluminium foils are used to wrap food items

Watch Video Solution

97. Give scientific reasons:

Aluminium oxide is called an amphoteric oxide

Watch Video Solution

98. Give scientific reasons:

Carbonate and suphide ores are usualy converted into oxides during the process of extraction

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99. Give scientific reasons:

Hydrogen gas is not evolved when metals like copper,zinc,iron,etc.react with dilute nitric acid

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100. Give scientific reasons:

Metals are good conductors of electricity while non-metlas are bad conductors of electricity.

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101. Give scientific reasons:

Calcium floats on water during the reaction with water.

Watch Video Solution

102. Give scientific reasons:

Sodium is more reactive than aluminium

Watch Video Solution

103. Give scientific reasons:

During electrolytic reduction of alumina, cryolite (Na_3AlF_6) and flu or $spar(CaF_2)$ are added to the electrolytic mixture containing pure alumina

Watch Video Solution

104. Give scientific reasons:

Ionic compounds in solid state do not conduct

electricity while in fused state or molten state they conduct electricity

Watch Video Solution

105. Give scientific reasons:

Ionic compounds are called electrolytes

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106. 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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107. 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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108. Explain the following:

What are the properties of metals and Non-metals?

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109. Explain the following:

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

Watch Video Solution

110. Explain the following:

Why do pure gold and platinum always giltter?

Watch Video Solution

111. Explain the following:

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

Watch Video Solution

112. Explain the following:

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

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113. In the reaction between chlorine and HBr transformation of HBr into Br_2 takes place. Can this transformation be called oxidation?

Which is the oxidant that brings about this oxidation?

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114. Explain the following:

An ore on treatment with dilute hydrochloric acid produces brisk effervescence .What type of ore is this? What steps will be required to obtain metal from the enriched ore?

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115. Explain the following:

A metal 'X' acquires a green colour coating on outer surface on exposure to air

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116. Explain the following: A metal 'X' acquires a green colour coating on outer surface on exposure to air. (i) Identify the metal 'X' and name the process responsible for this change. (ii) Name and write chemical formula of the green coating formed on the metal. (iii) List

two important methods to prevent the process.

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117. Explain the following:

Name and write chemical formula of the green coating formed on the metal.

Watch Video Solution

118. Explain the following:

List two important methods to prevent the process

Watch Video Solution

119. Explain the following:

How is the mehotd of extraction of metlas high up in the reactivity series different form that for metals in the middle?Why the same process cannot be applied for them?

Explaining by giving equaiton,the extraction sodium.

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120. What are the various alloys used in daily life? Where are those used?

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121. Explain the following:

What are the properties that the alloy used

for minting coins should have?

122. Complete the following statement using every given options.

During the extraction of aluminium_____

Ingredients and gangue in bauxite

123. Complete the following statement using every given options.

Use of lachihng during the concentration of ore

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124. Complete the following statement using every given options.

Chemical reaction transformation fo bauxite into alumina by Hall's process

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125. Complete the following statement using every given options.

Heating the aluminium ore with concentrated caustic soda

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126. Study the diagram and answer the question:

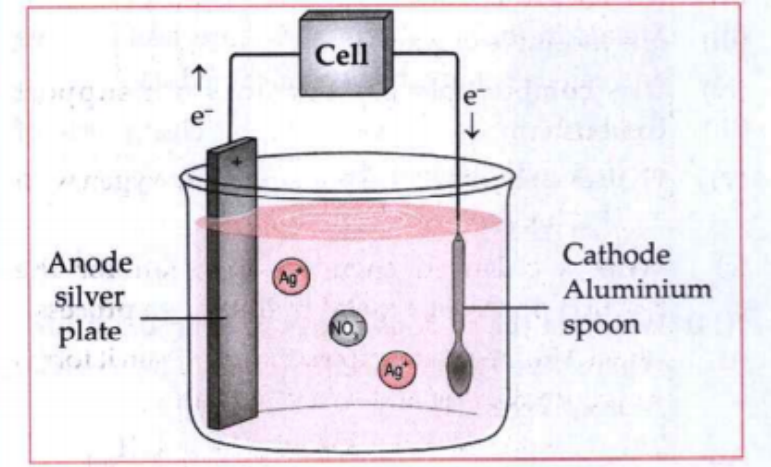

Fig 8.6: Electroplating

What can you say about the reactivity of metals at anode and cathode.

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127. Study the diagram and answer the question:

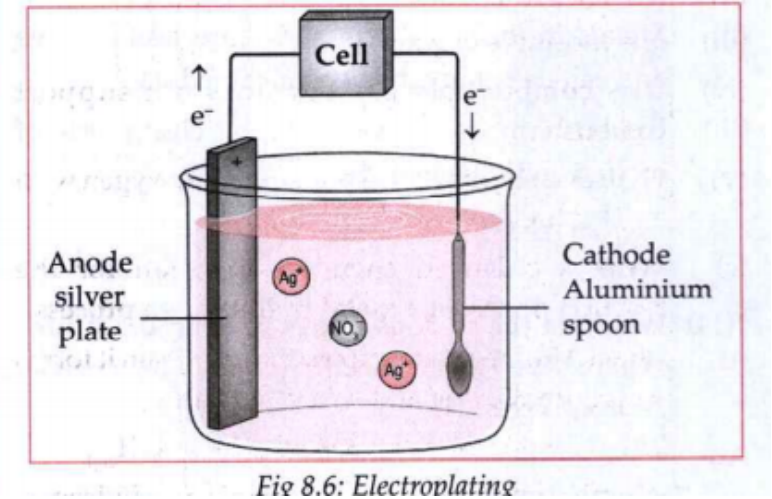

Fig 8.6: Electroplating

Write the reactions occuring at cathode and anode

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128. State any four properties of Ionic compounds

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129. Describe Bayer's Process

Watch Video Solution

130. Describe the process of electrolytic reduction of alumina with the help of a diagram.

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131. How can corrosion of metals be prevented?

Watch Video Solution

132. How are metals of high reactivity extracted?

Watch Video Solution

133. How are moderately reactive metals extracted?

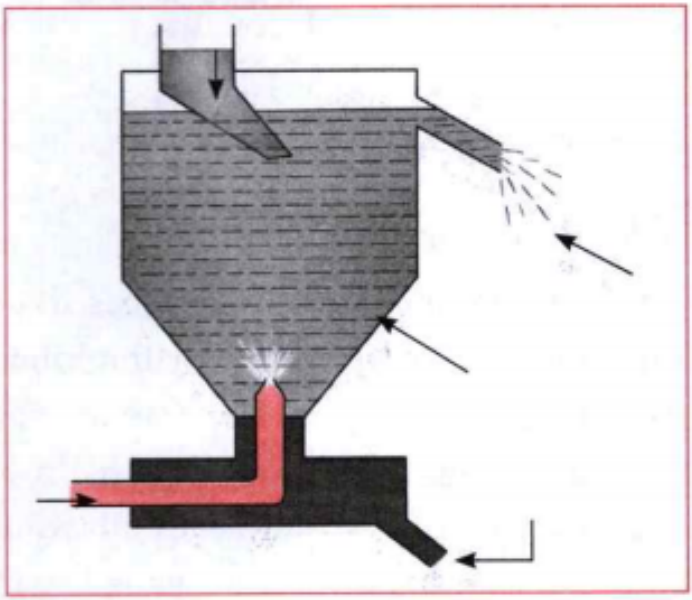
 Watch Video Solution

134. How are metals of less reactivity extracted?

 Watch Video Solution

135. Label the parts complete the paragraph with the words given in the bracet:

(heavy partciles, Gangue partciles, bottom, lower, lighter, upper)



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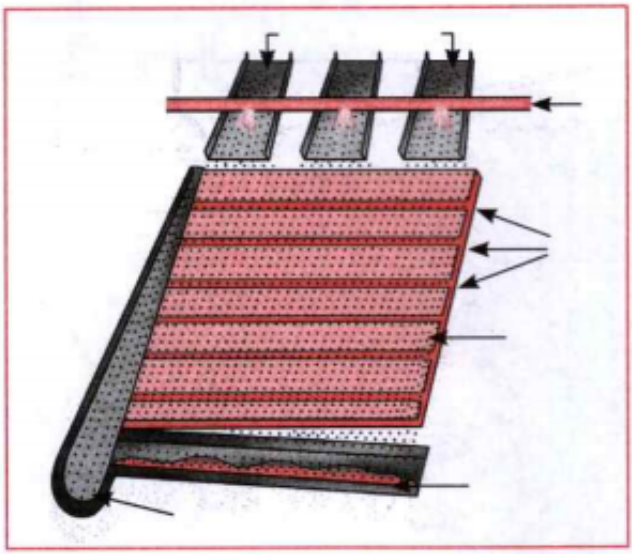
136. Label the parts of completer the paragraph with the words given in the bracket. (heavier, ball mill, lighter, slits , inclined , stream of water, vibrating)



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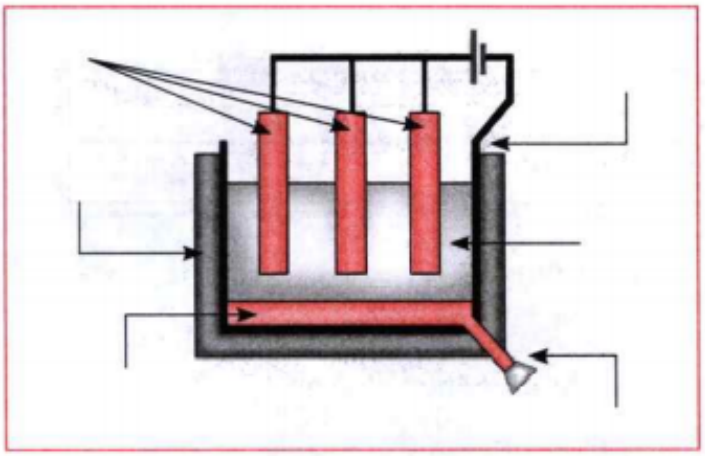
137. Answer the question based on the given diagram

Label the diagram and asnwer the givne question.



Write the anode and cathode reactions.

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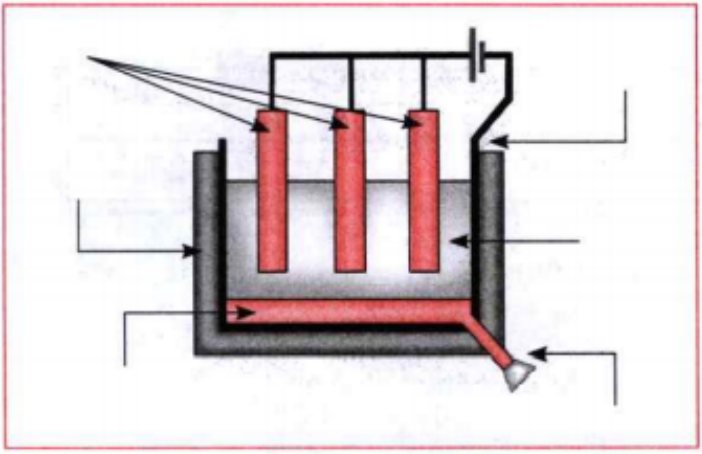
138. Label it correctly answer the question given below:



What does the above diagram indiacate?

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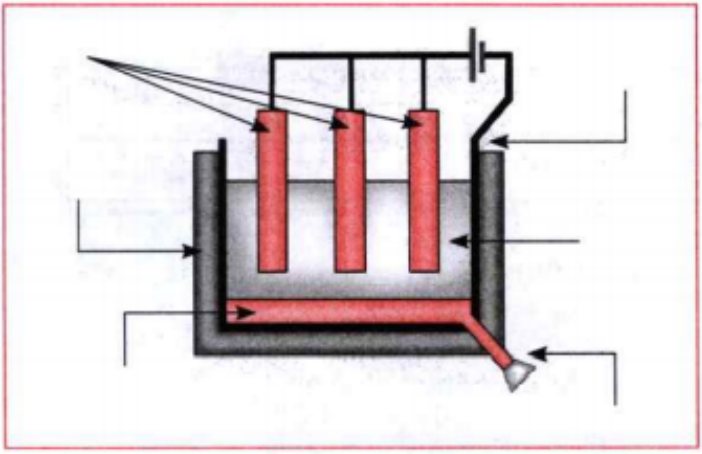
139. Label it correctly answer the question given below:



In the above process,name the two compounds along with their molecular formula which are added in the mixture to lower its melting point?

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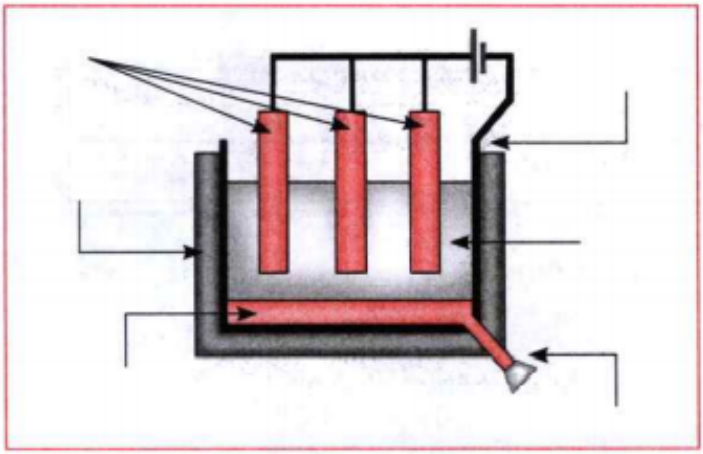
140. Label it correctly answer the question given below:



Give the cathode and ande reaction?

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141. Anodizing is a process of forming a thick layer of _____.

A. aluminium

B. Sodium oxde

C. Magnesium oxide

D. Potassiu oxide

Answer:

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142. The reactivity of metals with dil HCI in decreasing order is _____

A. $Mg > Zn > AI > Fe$

B. $Mg > AI > Zn > Fe$

C. $Fe > Zn > AI > Mg$

D. $Fe > AI > Zn > Mg$

Answer:

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143. Select the odd man out

Sodium oxide, Zinc oxide, Potassium oxide, Magnesium oxide.

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144. Find out the correlations:

Brass:Copper and zinc : : Brozne:_____

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145. State whether the following statements are true or false, correct the false statements.

In the process of 'Kalhaee' a metal is coated with zinc to prevent its corrosion.

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

Watch Video Solution

147. Give scientific reasons for the following:

Calcium floats on water during the reactionwith water.

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148. Write chemical equation for the following events:

A reaction was brought about between ferric oxide and aluminium

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149. 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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150. Explain magnetic separation method.

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151. How can corrosion of metals be prevented?

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152. How are moderately reactive metals extracted?

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153. Explain electrolytic reduction of alumina with the help of diagram.

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