



CHEMISTRY

BOOKS - MBD

METALS AND NON METALS

Example

1. Give an example of a metal which: is a poor conductor of heat



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2. Explain the meaning of malleable and ductile



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3. Why is sodium kept immersed in kerosene oil?



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4. Write equation for the reactions of :

iron with steam



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5. Write equations for the reactions of

:calcium and potassium with water.



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6. What would you observe when zinc is added to a solution of iron sulphate? Write the chemical reaction that takes place.



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7. Write the electron-dot structure for sodium oxide.



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8. Why do ionic compounds have high melting points?



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9. Define the terms: mineral



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10. Define the terms: ore



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



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12. Metallic oxides of zinc, magnesium and copper were heated with the following :

Metal	Zinc	Magnesium	Copper
Zinc oxide			
Magnesium oxide			
Copper oxide			

in which

cases will you find displacement reactions taking place?



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13. Which metals do not corrode easily?



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14. What are alloys?



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15. Which of the following pairs will give displacement reactions:

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:



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16. Which of the following methods is suitable for preventing an iron frying pan from rusting:

- A. applying grase
- B. applying paint
- C. applying a coating of zinc
- D. all of the above

Answer:



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17. 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

Answer:



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18. Food cans are coated with tin and not with zinc because:

- A. zinc is costlier than tin
- B. zinc has higher melting point than tin
- C. zinc is more reactive than tin
- D. zinc is less reactive than tin

Answer:



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19. You are given a hammer, a battery, a bulb, wires and a switch. How could you use them to distinguish between samples of metals and non-metals?



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20. You are given a hammer, a battery, a bulb, wires and a switch. Assess the usefulness of these in distinguishing between metals and non-metals.



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



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



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



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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.

what will be the action of gas on.

dry litmus paper.



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25. 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.

what is action of gas on moist litmus paper.

write a balanced chemical equation for the reaction taking place



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26. State two ways to prevent the rusting of iron



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27. What type of oxides are formed when non-metals combine with oxygen?



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28. Give reasons: Platinum, gold and silver are used to make jewellery



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29. Give reasons: sodium, potassium and lithium are stored under oil.



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30. Give reasons: aluminium is highly reactive metal, yet it is used to make utensils for cooking.



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31. Give reasons: Carbonate and sulphide ores are usually converted into oxides during the process of extraction



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32. 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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33. Differentiate between metals and non-metals



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



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35. 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?



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



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37. what is cinnabar. how mercury is extracted from it?



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38. define calcination



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39. define roasting





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40. How do metals and non-metals react with chlorine?



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41. Write four main exceptions from normal properties of metals and non-metals



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42. write elctron dot structure of sodium and magnesium?



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43. what are alloys?



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44. What is rust?give two ways to prevent rusting of iron?



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45. Explain general properties of ionic compounds



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46. explain why iron sheets are coated with zinc layer?



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47. Explain the reactivity series of metals



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48. Name two metals which are good conductors electricity



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49. Define ductility with example



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50. What is electrical conductivity? Name the metals which have the highest conductivity and the lowest conductivity.



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51. Give reason : platinum and gold are used to make jewellery?



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52. Why sodium are kept immersed in kerosene oil?



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53. What is difference between minerals and ores?



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54. How are the metals extracted, which are at the top of reactivity series?



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55. How the metals. which are in the middle of the reactivity series extracted?



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56. How will you extract metals which are low in the reactivity series?



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57. Explain the reaction of metals with water?



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58. How do metals react with: oxygen



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59. How do metals react with: dilute acids



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60. How do metals react with: chlorine



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61. How do metals react with:hydrogen



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62. Why blue color of copper sulphate solution disappear when iron nail is immeresed in it?



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63. What is roasting? when do you use it?



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64. If a copper plate remains immersed in silver nitrate solution for some time then what happens? write the ionic equation for the reaction



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65. Copper sulphate solution is stored in an iron container. after some days holes were seen in the container. write the reaction explain the reaction.





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66. Why copper becomes green if left open in air ?



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67. Show the formation of sodium chloride by transfer of electrons?



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68. Which process is used for the enrichment of sulphide ore. explain in brief two steps involved in the extraction of metal from enriched sulphide ore



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69. What is amalgam?



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70. Name two alloys of copper?



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71. An alloy of yellow colour is made of two metals a and b. When alloy a was dipped in dilute sulphuric acid, a layer dissolved in acid and formed colourless solution b did not dissolve in it and the surface of alloy attained red brown colour what is a b?



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72. Sulphur dioxide(SO_2) gas is produced when a certain ore is heated write the method involved in the extraction of metal from this ore.



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73. What is Thermite process? write its uses.



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74. Give five uses of non-metals



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75. Differentiate roasting and calcination



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76. How is ionic compound potassium oxide formed?



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77. Ionic compounds are insulators when in solid state whereas when in aqueous solution they become conductors why?



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78. Give two ores of aluminium.



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79. Give uses of five metals



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80. Which gas is produced when reactive metals come in contact with dilute hydrochloric acid? Write the chemical reaction iron and dil H_2SO_4



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81. Give reason aluminium oxide is considered as an amphoteric oxide.



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82. How do iron and aluminium react with water?



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83. What happens when iron oxide is heated with coke?



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84. What happens when Magnesium is treated with dilute sulphuric acid?



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85. What happens when: zinc is added to blue vitriol solution?



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86. What is rust? Explain it with the help of a chemical reaction.



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87. Write two alloys of iron?



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88. Write the names of metals found in bronze and brass.



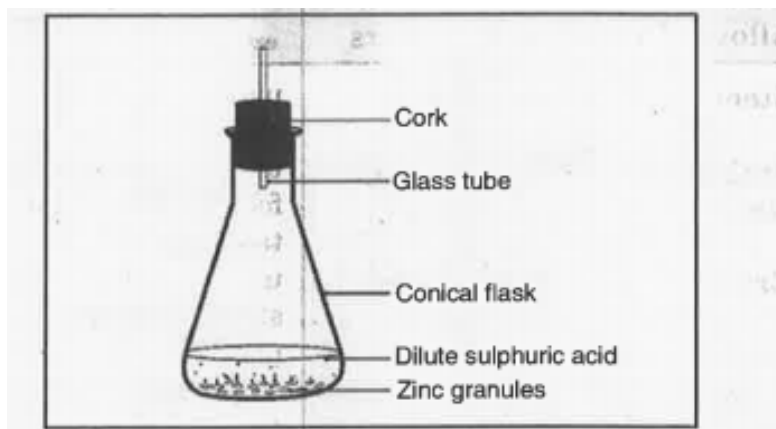
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89. What is the reason of catching fire by potassium and sodium on their own?



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90. Observe the figure given below and name the gas produced also give the chemical equation.



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91. Why ionic compound are solid at room temoerature?



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92. How copper is extracted from its sulphide ore. write balanced equation.



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93. Why school bells are made up of metal not of non metal?



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94. Give one example of metal which is liquid at room temperature



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95. Name one non metal which is lustrous?



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96. Two solution has ph values of 5 and 8 respectively. which solution will be basic in

nature.



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97. Name the non metal which conducts electricity.



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98. why sodium chloride has high melting point?



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99. Arrange the following metals in the increasing order of reactivity.

A. Al

B. K

C. Au

D. Mg

Answer:



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100. Out of sodium, calcium, aluminium, copper and magnesium name the metal which reacts with :hot water and steam



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101. Potassium metal is kept under kerosene oil, why?



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102. A non-metal x, exists in two forms Y and Z. Y is the hardest substance and Z is a GOOD conductor of electricity what are X,Y and Z?



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103. An element, A forms two oxides AO and AO_2 . AO is neutral and AO_2 is acidic: indicate whether A is metal or non-metal



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104. Name the reaction to convert metal carbonate into its oxide?



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105. An element x reacts with oxide to form oxide, X_2O which dissolves in water and turns red litmus solution blue, give the nature of oxide and indicate X is metal or non-metal.



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106. What is the nature of metal oxides?



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107. Name two noble metals



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108. Name an ore of mercury?



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109. Name two metalloids.



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110. Metals lose lustre when placed in air why?



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111. Name two metals which can be cut with a
knife



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112. Why do metals acquire different shapes?



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113. Name the metal which is poor conductor of heat



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114. what are conductors?



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115. what are insulators?



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116. Name four non-metals which are solid at room temperature



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117. Name the element which are present in abundance in earth's crust



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118. What are alkalies? give one example



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119. Name two amphoteric oxide



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120. What happens when magnesium reacts with oxygen?



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121. Name the metal which does not react with dil.HCl.



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122. Name two metals which react with hydrogen



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123. Give the reactions when red hot iron reacts with steam



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124. Why is zinc oxide called amphoteric oxide?



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125. The metals Na, k and Ca react with hydrogen to form hydride but other metals dont.why?



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126. Give the reaction which occur when zinc plate is added to copper sulphate solution



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127. Out of the metals, Na, Cu, Au which is :
most reactive and
least reactive?



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128. Arrange the following metals in the
increasing order of reactivity zinc, mercury and
aluminium



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129. Name two metals which occur in free state in nature?



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130. Define corrosion of metals?



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131. Name a metal which undergoes corrosion in air?



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132. Name two metals which are not corroded easily



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133. Why does copper utensils turn green on exposure to air?



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134. Name two metals which are both malleable and ductile.



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135. Name the metal that gives a green coating when exposed to air?



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136. write the formula for carbon dioxide?





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137. Name two metals which occur in free state in nature?



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138. Name one of the most common ore of aluminium



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139. What is an amalgam?



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140. Name two metals which readily burn in air



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141. Name two metals which do not react with
air



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142. Name the metal which is best conductor of electricity?



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143. Name one metal which reacts with cold water



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144. Name one metal more reactive than hydrogen add one less reactive metal than hydrogen?



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145. Write the chemical name of any one ore of sulphur



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146. Name the metal used in galvanisation of iron?



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147. Which metals do not corrode easily?



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148. what happen when sodium hydroxide is heated with zinc granules?



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149. Most reactive metal is:

A. Na

B. Mg

C. Au

D. K

Answer:



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150. The property due to which metals can be beaten into sheets is:

A. Malleability

B. ductility

C. metallic lustre

D. hardness

Answer:



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151. The amphoteric oxide is

A. ZnO

B. BaO

C. K_2O

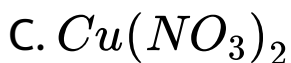
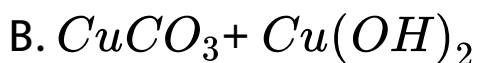
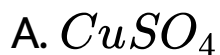
D. Na_2O

Answer:



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152. Copper gets covered with green layer when exposed to air due to the formation of:



Answer:



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153. During galvanisation, the metal whose layer is deposited is:

A. gallium

B. aluminium

C. zinc

D. silver

Answer:



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154. Fill in the blanks: Brass is an alloy of copper and...



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155. Fill in the blanks: ___ is the best conductor of electricity



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156. Fill in the blanks: All the ores are.....



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157. Fill in the blank : zinc carbonate can be refined by..... .



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