CHEMISTRY

BOOKS - BODY BOOKS PUBLICATION

REACTIVITY SERIES AND ELECTROCHEMISTRY

Example

1. Which metal among magnesium, copper, gold, sodium and aluminium, loses its lus-tre at a faster rate?

Watch Video Solution

2. List the above metals in the decreasing order of their reactivity with air and thereby losing luster.

Magnesium, Sodium, Copper, Gold, Aluminum

Watch Video Solution

3. What happens to the Zn rod when dipped in copper sulfate solution?

Watch Video Solution

4. When Zn rod is dipped in $CuSO_4$ solutions, Zn rod become blue. What is the reason for this?

Watch Video Solution

5. What is the reason for the change in intensity of the colour of $CuSO_4$ solution?

Watch Video Solution

6. When Zn rod is dipped in $CuSO_4$ solutions, intensity of colour of $CuSO_4$ solution changes. Which is the metal that gets displaced here?

Watch Video Solution

7. What is more reactive Zn or Cu?

Watch Video Solution

8. On the basis of the position of Zn and Cu in the reactivity series, can you explain why Cu had been displaced?

Watch Video Solution

9. On the basis of position of Zn and Cu in reactivity series, when When Zn rod is dipped in $CuSO_4$ solutions, Cu had been displaced. Isn't it due to the higher reactivity of zinc (Zn) when compared to copper (Cu)?

Watch Video Solution

10. When Zn rod is dipped in $CuSO_4$ solutions, Zn rod become blue. Is this reaction oxidation or reduction? Why?

Watch Video Solution

11. When Zn rod is dipped in $CuSO_4$ solutions, Zn rod become blue. What is the name of this reaction? Why?

Watch Video Solution

12. $2\ Ag^{+1}NO_3^{(\cdots)} + Cu^0 \rightarrow Cu^{(\cdots)}(NO_3)_2^{-1} + Ag^{(\cdots)}$. Complete this chemical equation by assigning oxidation numbers.

Watch Video Solution

13. Which metal is oxidized in this case? Which metal is reduced?

$Zn(S) + Cu^{2+} \rightarrow Zn^{2+} + Cu(S)$

Watch Video Solution

14. Write equations showing oxidation and reduction.

Watch Video Solution

15. Which electrode has the ability to donate electrons in a cell constructed using these metals? Zn and Cu

Watch Video Solution

16. Which one can gain electrons?

Watch Video Solution

17. Identify the chemical reaction that takes place at the Zn electrode in a Daniel cell. Tick $\sqrt{}$ the right one.

A. $1)\ Zn^{2+}(aq.) + 2e^{-} \rightarrow Zn(S)$

B. $2)\ Zn(S) \rightarrow Zn^{2+}(aq.) + 2e^{-}$

C.

D.

Answer:

Watch Video Solution

18. Write the chemcial equation for the reac-tion taking place at the Cu electrode.

Watch Video Solution

19. From the electrochemical series, Cu can displace Ag from silver nitrate solution

Represent the cell constructed with silver and copper electrodes

Watch Video Solution

20. Note down the reaction of Galvanic cell.

Watch Video Solution

21. Direction of flow of electrons in a galvanic cell constructed using Cu and Ag.

Watch Video Solution

22. Write the reactions taking place at cathode and anode in cell constructed using Ag and Cu

Watch Video Solution

23. You have used threee metals Zn, Cu and Ag. How many cells can be produced using these?

Watch Video Solution

24. Complete the Table 3.4 by writing anode and cathode in each. $Zn-Cu, Cu-Ag,$ and $Zn-Ag$

Watch Video Solution

25. What are the substances obtained when electricity is passed through acidified wa-ter?

Watch Video Solution

26. What type of chemical changes happen when electricity is passed through brine solution?

Watch Video Solution

27. To which electrodes are the positive ions attacted during electrolysis?

Watch Video Solution

28. To which electrodes are the negative ions attracted?

Watch Video Solution

Watch Video Solution

29. What changes happen to the ions which are attracted to cathode?

Watch Video Solution

30. What about the changes happening to the ions attracted to anode?

Watch Video Solution

31. Which ion is attracted to the positive elec-trode (anode)?

Watch Video Solution

32. What is the chemical reaction taking place in the flask. Name the gas involved

Watch Video Solution

33. Which is the gas liberated at the anode during electrolysis of water?

Watch Video Solution

34. Which is the ion attracted to the cathode during electrolysis of sodium chloride solution?

Watch Video Solution

35. Which is the metal deposited at the cathode during electrolysis of aqueous $AgCl$?

Watch Video Solution

36. The solutions of $ZnSO4$, FeSO4, CuSO4 and AgNO3` are taken in four different test tubes. Suppose, an iron nail is kept immersed in each one: In which test tube the iron nail under goes a colour change?, What is the reaction taking place here?

Watch Video Solution

37. The ions which are attracted to the negative electrode are called?

A. A) Cations

B. B) Anions

C.

D.

Answer:

Watch Video Solution

38. Which metal is connected to the negative terminal of the battery?

Watch Video Solution

39. Which metal is connected to the positive terminal of the battery?

Watch Video Solution

40. Which solution is used as the electrolyte in Nelson's process?

Watch Video Solution

41. What happens to Cu^{2+} ions at the cathode? Complete the equation.

Watch Video Solution

42. What happened to the copper ions? Oxidation/Reduction?

Watch Video Solution

43. Complete the equations given below.

a) $H_2SO_4 + Zn \rightarrow .....$

b) $H_2SO_4 + 2NaOH \rightarrow .....$

c) $H_2SO_4 + CaCO_3 \rightarrow .....$

Watch Video Solution

44. Find out examples of chromium plating and extend the list

Watch Video Solution

45. Compare the electrolysis of molten potassium chloride and solution of potassium chloride. What are the pro cesses taking place at the cathode and the anode?

Watch Video Solution

46. You are given a solution of $AgNO_3$, a solution of $MgSO_4$, a Ag rod and a Mg ribbon. How can you arrange a Galvanic cell using these? Write down the reactions taking place at the cathode and the anode.

Watch Video Solution

47. Keep two carbon rods immersed in copper sulphate solution.Then pass electricity through the solution: At which electrode does colour change occur anode or cathode?

Watch Video Solution

48. Keep two carbon rods immersed in copper sulphate solution.Then pass electricity through the solution: Is there any change in the blue colour of the copper sulphate solution?

Watch Video Solution

49. Keep two carbon rods immersed in copper sulphate solution.Then pass electricity thr-ough the solution: Write down chemcial equations for the changes occuring here.

Watch Video Solution

50. When acidified copper sulphate solution is electrolysed oxygen is obtained at the anode. What arrangements are to be made for this? Find the element deposited at the cathode.

Watch Video Solution

51. How many Galvanic cells can be made by using the metals Ag, Cu, Zn and Mg. When Galvanic cells are made using the metals given, what will be the nature of reactions in each cell? (Reactivity: Mg gt Zn gt Cu gt Ag).

Watch Video Solution

52. How many Galvanic cells can be made by using the metals Ag, Cu, Zn and Mg. When Galvanic cells are made using the metals given, what will be the nature of reactions in each cell? (Reactivity: Mg gt Zn gt Cu gt Ag).

Watch Video Solution

53. Take cold water and Hot water in two test tubes, Add one or two drops of phenolphthalein in it Drop equally sized Mg ribbon in it: In which test tube pink colour occurred sharply?

Watch Video Solution

54. Take cold water and Hot water in two test tubes,Add one or two drops of phenolphthalein in it Drop equally sized Mg ribbon in it: Why did pink colour appear in that test tube so early?

Watch Video Solution

55. Take cold water and Hot water in two test tubes,Add one or two drops of phenolphthalein in it Drop equally sized Mg ribbon in it: Which gas evolved out from both test tubes?

Watch Video Solution

56. Take cold water and Hot water in two test tubes,Add one or two drops of phenolphthalein in it Drop equally sized Mg ribbon in it: Write balanced equation for the above mentioned reaction.

Watch Video Solution

57. Cut a small sodium metal piece into two, watch it: What change occurred on the surface of sodium metal?

Watch Video Solution

58. Cut a small sodium metal piece into two, watch it: Write one word for the process of this type of decomposition.

Watch Video Solution

59. Cut a small sodium metal piece into two, watch it: Write down the equations for this.

Watch Video Solution

60. Take equal quantities of dil HCI in four test tubes. Drop Mg, Zn, Fe,Cu in each test tube. Watch carefully: Arrange metals in decreasing order or reactivity.

Watch Video Solution

61. Take equal quantities of dil HCI in four test tubes. Drop Mg, Zn, Fe,Cu in each test tube. Watch carefully: Write balanced equation for each reaction.

Watch Video Solution

62. Some metals and metallic compounds are given in the table. If the metal substitute the metal in the compound, put a tick mark in the corresponding column and otherwise a cross mark in the column. Write down correct answer based on the table given below.

Metal/ solution	Mg		Zn	Ag	Fe
$CuSO_4$		x		x	
$ZnSO_4$		Cu x	x	x	x
$AgNO_3$				x	
$MgSO_4$				x	

: Correct the table if necessary.

Watch Video Solution

63. Some metals and metallic compounds are given in the table. If the metal substitute the metal in the compound, put a tick mark in the corresponding column and otherwise a cross mark in the column.

Write down correct answer based on the table given below.

Metal/ solution	Mg	Cu	Zn	Ag	Fe
$CuSO_4$		x		x	
$ZnSO_4$		x	x	x	x
$AgNO_3$				x	
$MgSO_4$				x	

: Write down balanced equations for all the true sign given in the table.

Watch Video Solution

64. Draw maximum number of Galvanic cell using substance given in the table.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

Complete

the table based on the figures drawn.

Galvanic cell	Electrode which Gives Electron	Electrode which Gain Electron

Watch Video Solution

65. Draw maximum number of Galvaniccell using substance given in the table.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

: Write down the general names used for an electrode which gives electrons.

Watch Video Solution

66. Draw maximum number of Galvanic cell using substance given in the table.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

Metals in that electrode in the reactivity series is ..... (in the Top, Bottom)

Watch Video Solution

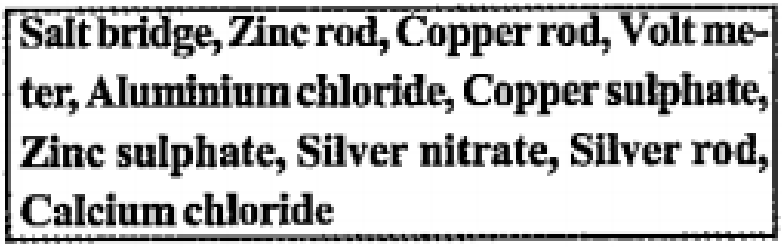
67. Draw maximum number of Galvanic cell using substance given in the table.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

: General name of the Electrode which accepts electron.

Watch Video Solution

68. Draw maximum numberof Galvaniccell us ing substance given in the table.



: Process of giving electron is.....

Watch Video Solution

69. Draw maximum numberof Galvaniccell us ing substance given in the table.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

: Process of Accepting electron is .....

Watch Video Solution

70. Draw any one of the Galvaniccell using substance given in the table.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

: Direction of the flow of Electron.....

Watch Video Solution

71. Draw maximum number of Galvanic cell using substance given in the table.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

: Write down the balanced equation taking place in both electrodes.

Salt bridge, Zinc rod, Copper rod, Volt meter, Aluminium chloride, Copper sulphate, Zinc sulphate, Silver nitrate, Silver rod, Calcium chloride

Watch Video Solution

72. Take Cupricchloride $(CuCI_2)$ solution in a 'beaker. Dip two graphite rod in it. Pass 5V electricity through it: Why electricity passes through cupric chloride solution?

Watch Video Solution

73. Take Cupricchloride $(CuCI_2)$ solution in a 'beaker. Dip two graphite rod in it. Pass 5V electricity through it: Which gas evolved out through positive electrode? How did you identify that gas?

Watch Video Solution

74. Take Cupricchloride $(CuCI_2)$ solution in a 'beaker. Dip two graphite rod in it. Pass 5V electricity through it: Which gas evolved out through positive electrode? How did you identify that gas?

Watch Video Solution

75. Take Cupric chloride $(CuCI_2)$ solution in a 'beaker. Dip two graphite rod in it. Pass 5V electricity through it: In which electrode oxidation and reduction takes place?

Watch Video Solution

Watch Video Solution

76. Take Cupricchloride $(CuCl_2)$ solution in a 'beaker.Dip two graphite rod in it. Pass 5V electricity through it: Write one word for the process of chemical change happening in a Electrolyte while passing Electricity?

Watch Video Solution

77. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid init: Why electricity didn't pass through pure water?

Watch Video Solution

78. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid in it: What happens when dil H_2SO_4 is

added?

Watch Video Solution

79. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid in it: Which type of ion formed more when sulphuric acid is added in water.

Watch Video Solution

80. Take 25 ml water in a beaker and the pass electricity through it. Then add little sul-phuric acid in it: Complete the equation of the Ionization of H_2SO_4 $H_2SO_4 \rightarrow 2H^+ \ldots\ldots\ldots\ldots\ldots\ldots\ldots$

Based on the equation given below write down the correct answers.

$2H^+ + \ldots\ldots\ldots\ldots + 2H_2O \rightarrow 2H_3O^+ + SO_4^{2-}$

Watch Video Solution

81. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid in it: Complete the equation

Watch Video Solution

82. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid in it: What happens when dil H_2SO_4 is added?

Watch Video Solution

83. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid in it: Which type of ion formed more when sulphuric acid is added in water.

Watch Video Solution

84. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid init: Why electricity didn't pass through pure water?

Watch Video Solution

85. Take 25 ml water in a beaker and the pass electricity through it. Then add little sul-phuric acid init: Which ion is having highest oxidation po-tential?

Watch Video Solution

86. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid in it: What happens when dil H_2SO_4 is added?

Watch Video Solution

87. Take 25 ml water in a beaker and the pass electricity through it. Then add little sul-phuric acid init: Ions remain in the beaker after the elec-trolysis are .....,.....

Watch Video Solution

88. Take 25 ml water in a beaker and the pass electricity through it. Then add little sulphuric acid in it: What happens when dil H_2SO_4 is added?

Watch Video Solution

89. Complete the table based on the Electrolysis of molten sodium chloride.

Electrodes	Reaction taking place	Product
Anode		
Cathode		

Watch Video Solution

90. Write down the reaction taking place in each electrodes and products formed in the electrolysis of sodium chloride solution.

Electrodes	Reaction taking place	Product
Anode		
Cathode		

Watch Video Solution

91. Why is hydrogen formed at the cathode instead of sodium in electrolysis of aqueous sodium chloride?

Watch Video Solution

92. Write one word for a solution undergoes chemical change when electricity passes through it.

Watch Video Solution

93. Reaction is taking place in each electrodes in electrolysis of sodium chlorides solution. Write the name of the above process.

Watch Video Solution

94. Which gas is bubbled on the surface of so-dium metal?

Watch Video Solution

95. Write balanced equation of the reaction between sodium and water.

Watch Video Solution

96. What products occurs when Iron reacts with water vapour?

Watch Video Solution

97. Lusture of magnesium disappeared fast when it placed in open space why?

Watch Video Solution

98. Verdigris formed on copper utensils after somedays why?

Watch Video Solution

99. Lustre of aluminium utensils disappear af-tersome days.Why ?

Watch Video Solution

100. Write down the equation for the reaction between $CuSO_4$,and ironnail? What type of reaction is this?

Watch Video Solution

101. 5ml water is taken in 3 test tubes. Copper, sodium and magnesium of equal mass are dropped in different test tubes. Test tubes having copper and magnesium are heated: Write the observations in the heated test tubes.

Watch Video Solution

102. 5ml water is taken in 3 test tubes. Copper, sodium and magnesium of equal mass are dropped in different test tubes. Test tubes having copper and magnesium are heated: Write the equations for the reaction in the test tube in which sodium is dropped.

Watch Video Solution

103. 5ml water is taken in 3 test tubes.Copper, sodium and magnesium of equal mass are dropped in different test tubes. Test tubes having copper and magnesium are heated: Arrange these metals in the decreasing order of their reactivity.

Watch Video Solution

104. Which metal amongcopper, aluminium and goldlooseits metalic luster at a faster rate? Write the equation of thereact..ion

Watch Video Solution

105. Sodium is kept in Kerosene. Why?

Watch Video Solution

106. An experimental setupis made to compare the reactionsof Mg,Zn and Cu with dilute hydrochloricacid: Write the procedure and observation of the reaction.

Watch Video Solution

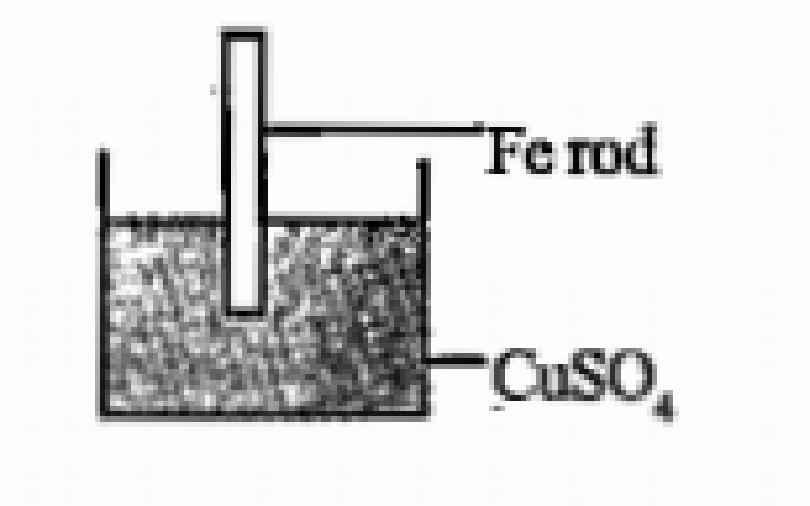
107. An experimental setupis made to compare the reactionsof Mg,Zn and Cu with dilute hydrochloric acid: Which is the gas evolved when zinc react with dilute hydrochloric acid?

Watch Video Solution

108. An experimental setupis made to compare the reactionsof Mg,Zn and Cu with dilute hydrochloric acid: Which is the gas evolved when zinc react with dilute hydrochloric acid?

Watch Video Solution

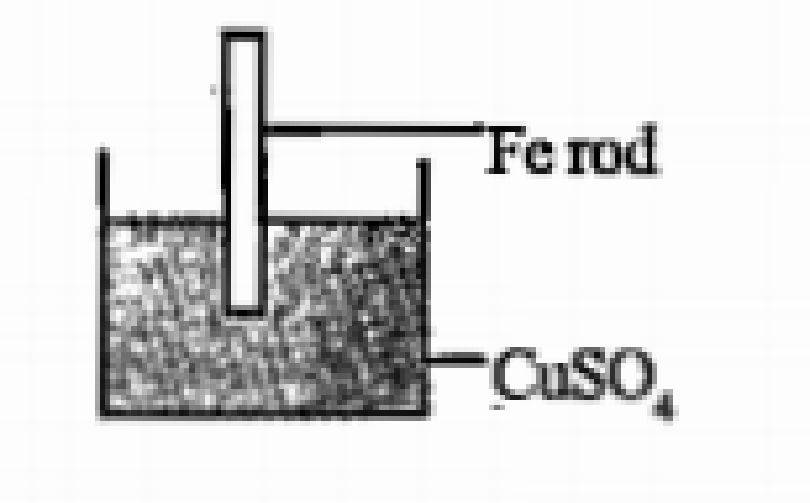
109.



What are the changes that can be observed with the iron rod and the colour of copper sulphate solution?

Watch Video Solution

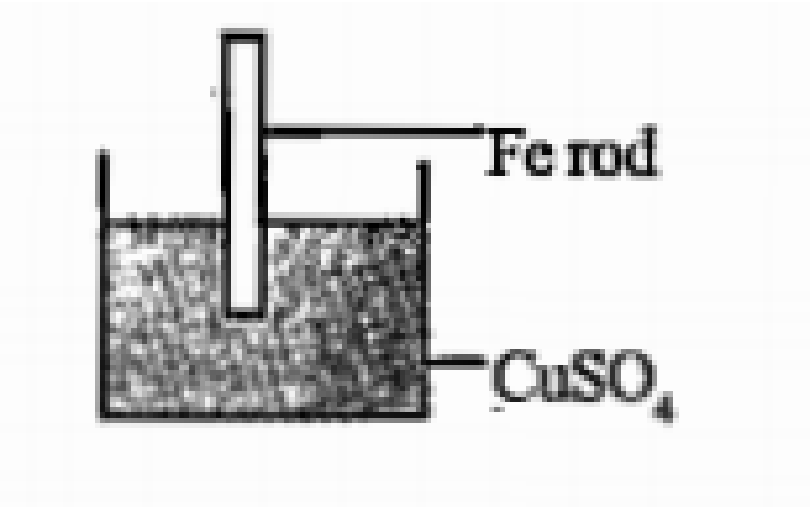
110.



Write the equations of the oxidation and reduction reactions.

Watch Video Solution

111.



What will be the change if silver rod is used instead of iron rod? What is the reason?

Watch Video Solution

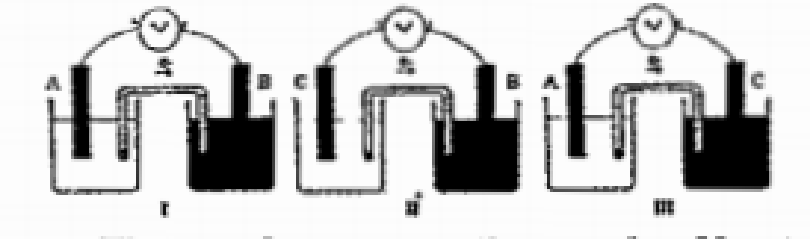
112. Sodium reacts with water: Identify the gas evolved in the reaction

Watch Video Solution

113. Sodium reacts with water: If two drops of phenolphthaloin is added to the water, what will be colour change to the resultant solution? Explain the reason?

Watch Video Solution

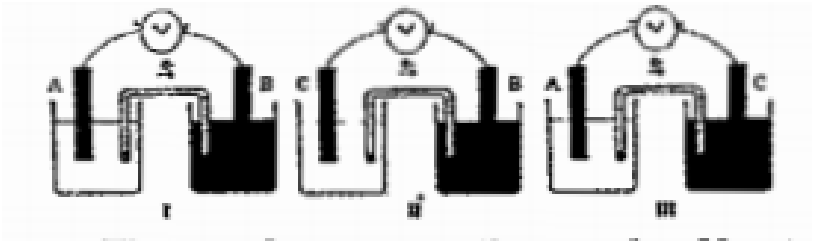
114. Three Galvanic cells are given:



Find out the most reactive metal and least reactive metal among them.

Watch Video Solution

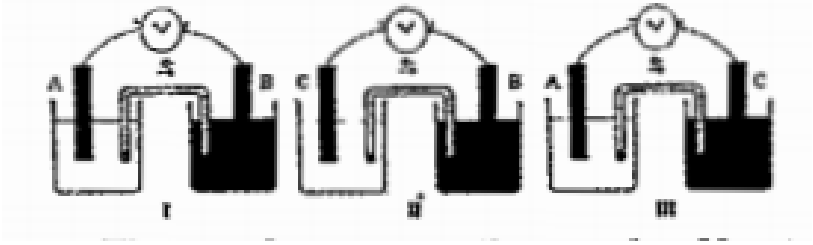
115. Three Galvanic cells are given:



In cell, which electrode under goes oxi-dation why?

Watch Video Solution

116. Three Galvanic cells are given:



Write the equation of the redox reaction occuring in cell 1 (Valency of A,B are 2.)

Watch Video Solution

117. Some metals and salt solutionsaregiven $(Cu, Zn, Ag, ZnSO_4, AgNO_3, MgCI_2)$: Draw the diagram of a Galvanic cell that can be made using these substances.

Watch Video Solution

118. Some metals and salt solutionsaregiven $(Cu, Zn, Ag, ZnSO_4, AgNO_3, MgCI_2)$: Draw the diagram of a Galvanic cell that can be made using these substances.

Watch Video Solution

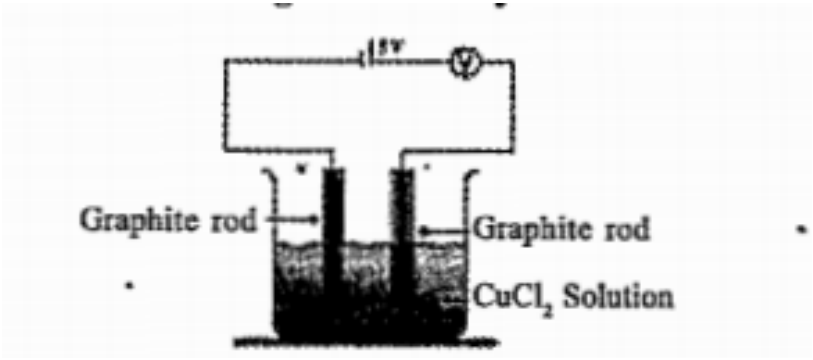
119. Give reasons for the following: Iron vessels are not used a boilers that are used to boil water.

Watch Video Solution

120. Give reasons for the following: Blue vitriol solution is not kept in iron vessels.

Watch Video Solution

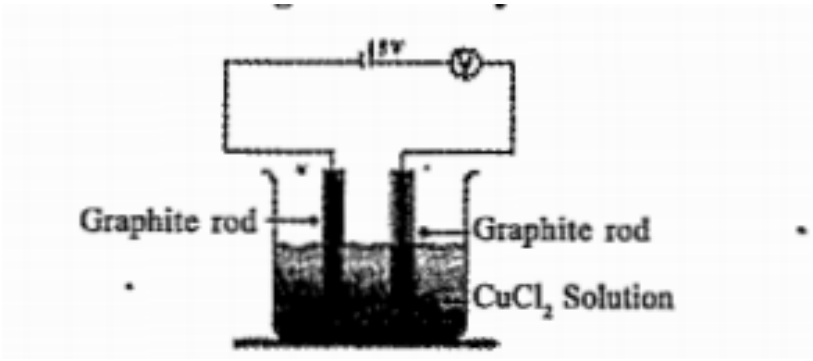
121. Examine the given electrolytic cell:



Which gas is evolved at the positive electrode?

Watch Video Solution

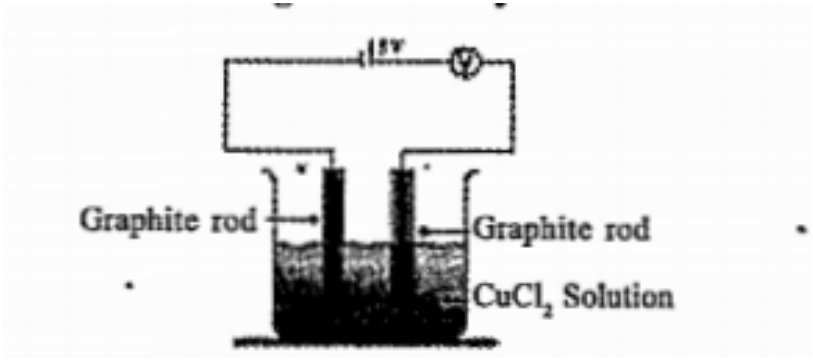
122. Examine the given electrolytic cell:



Write the oxidation and reduction rea-ctions of this cell.

Watch Video Solution

123. Examine the given electrolytic cell:



What is the different in the energy trans-formation of a Galvanic cell and an electrolytic cell?

Watch Video Solution

124. The solutions in the given table electrolyzed: Complete the table.

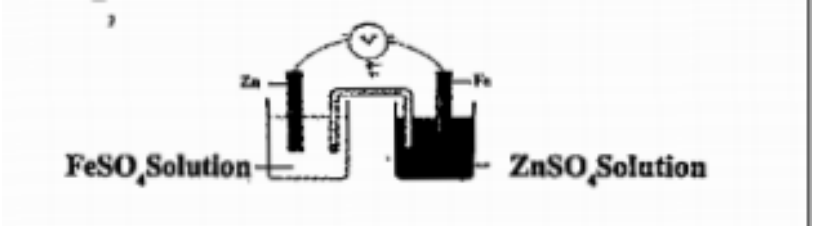
Electrolyte	Substance liberated/ deposited at anode	Substance liberated/deposited at cathode
i. Acidified water	Oxygen	.....i.....
ii. Molten sodium chloride	.....ii.....	Sodium
iii. Aqueous solution of Sodium Chloride	.....iii.....	.....iv.....

Watch Video Solution

125. List any two areas in which electrolysis is made use of?

Watch Video Solution

126. The position of iron is below that of zincin reactivity series.The cell formed by them is given. Correct the mistakes and redraw.



Watch Video Solution

127. Sodium chloride solution is electrolysed us-ing platinum electrodes: Write the chemcial equation of the reac-tion at cathode.

Watch Video Solution

128. Sodium chloride solution is electrolysed us-ing platinum electrodes: What happens when phenolpthalein is ad ded to-the solution? State the reason?

Watch Video Solution

129. The anode and cathode of two Galvanic cells are given.

Galvanic cell	Anode	Cathode
Cell 1	Mg	Zn
Cell 2	Zn	Ag

A. $Mg \rightarrow Mg^{2+} + 2e^-$

B. $Zn^{2+} + 2e^- \rightarrow Zn$

C. $Ag^+ + 1e^- \rightarrow Ag$

D. $Zn \rightarrow Zn^{2+} + 2e^-$

E. $Ag \rightarrow Ag^+ + 1e^-$

F. $Mg^{2+} + 2e^- \rightarrow Mg$

Find out the reactions at the anode and cathode for each cell from the above.

Watch Video Solution

130. The anode and cathode of two Galvanic cells are given.

Galvanic cell	Anode	Cathode
Cell 1	Mg	Zn
Cell 2	Zn	Ag

A. $Mg \rightarrow Mg^{2+} + 2e^-$

B. $Zn^{2+} + 2e^- \rightarrow Zn$

C. $Ag^+ + 1e^- \rightarrow Ag$

D. $Zn \rightarrow Zn^{2+} + 2e^-$

E. $Ag \rightarrow Ag^+ + 1e^-$

F. $Mg^{2+} + 2e^- \rightarrow Mg$

Which metal can act only as cathode? Why?

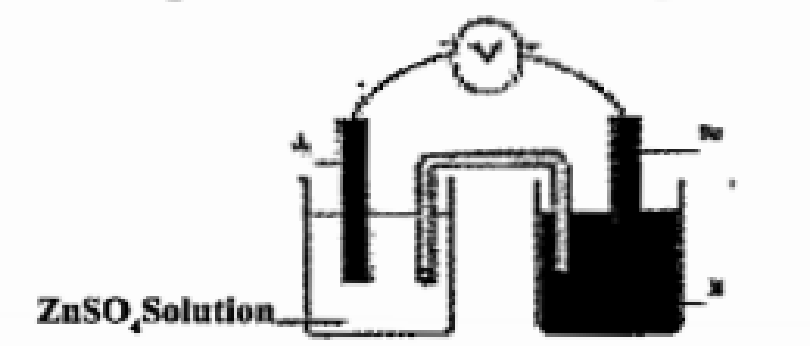
Watch Video Solution

131. The chemical reactions of various Galvanic cells are given as incomplete in the table. Complete them.

Cell	Chemical Reaction		Redox Reaction
	Anode	Cathode	
Zn - Cu	.....(a).....	$Cu^{2+} + 2e^- \rightarrow Cu$	.....(b).....
Fe - Ag	.....(c).....	.....(d).....	$Fe + 2Ag^+ \rightarrow Fe^{2+} + 2Ag$
Mg - Pb	$Mg \rightarrow Mg^{2+} + 2e^-$	.....(e).....	.....(f).....

Watch Video Solution

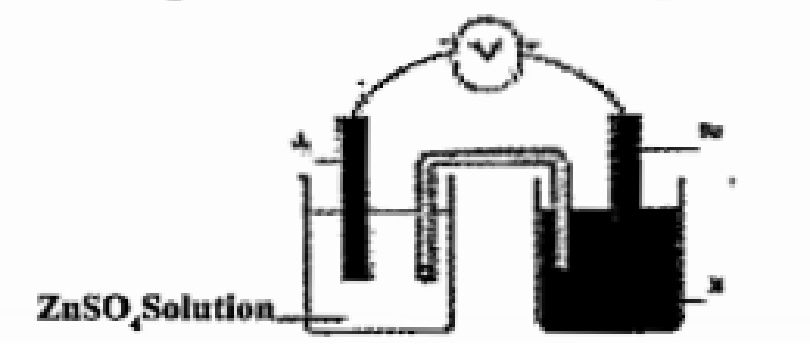
132. The picture of a Galvanic Cell given below.



Identify A and B

Watch Video Solution

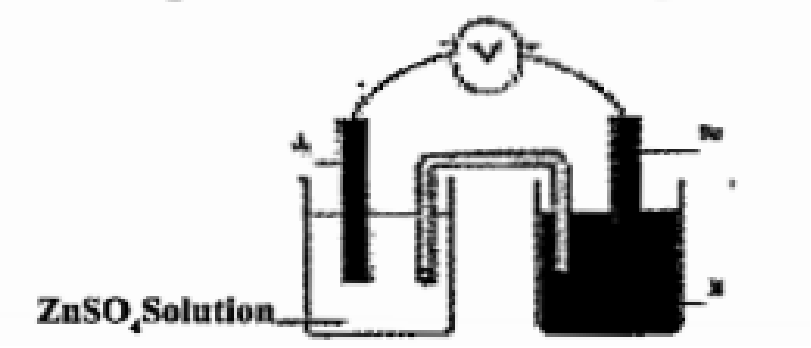
133. The picture of a Galvanic Cell given below.



Give the direction of electron flow?

Watch Video Solution

134. The picture of a Galvanic Cell given below.



Write the chemical equation at the anode and cathode.

Watch Video Solution

135. An incomplete table about the electrolysis of different electrolytes are given below. Complete it.

Electrolyte	Ions/ Molecules	Chemical Reaction	
		Anode	Cathode
$CuCl_2$ Solution	.....(a).....	$2Cl^- \rightarrow Cl_2 + 2e^-$	$Cu^{2+} + 2e^- \rightarrow Cu$
Water acidified with H_2SO_4	$2H_3O^+$, SO_4^{2-}, H_2O	.....(b).....	$2H_3O^+ + 2e^- \rightarrow H_2 + 2H_2O$
Molten NaCl	.....(c).....	$2Cl^- \rightarrow Cl_2 + 2e^-$	.....(d).....
NaCl Solution	Na^+, Cl^-, H_2O	.....(e).....	.....(f).....

Watch Video Solution

136. 5ml $AgNO_3$ is taken in a test tube and a co-pper rod is dipped in ti: Identify the changes occuring with the copper rod and the solution?

Watch Video Solution

137. 5ml $AgNO_3$ is taken in a test tube and a co-pper rod is dipped in ti: Complete the equation of the reaction. $Cu + 2AgNO_3 \rightarrow \ldots\ldots\ldots\ldots\ldots\ldots\ldots + \ldots\ldots\ldots\ldots\ldots\ldots$

Watch Video Solution

138. 5ml $AgNO_3$ is taken in a test tube and a co-pper rod is dipped in ti: Write the equations of the oxidation and reduction reactions.

Watch Video Solution

139. The symbols of certain metals are given be-low. Arrange them as they aregiven in the reactivity series. Mg,Pb,Ag,Cu,Zn,Fe,Ail,Sn

Watch Video Solution

140. Analyse the table given below and answer the questions.

Metal	Cold water + Phenolphtha-lein	Hot water + Phenolphtha-lein	Reaction with $MgSO_4$ solu-tion
A	No colour	Pink colour	Displaceme-nt reaction takes place
B	No colour	No colour	No reaction
C	Pink colour	Pink colour	Displaceme-nt reaction takes place

Find out the metals which are likely to be A,B and C from the box given below. Ca Cu Mg

Watch Video Solution

141. Analyse the table given below and answer the questions.

Metal	Cold water + Phenolphtha-lein	Hot water + Phenolphtha-lein	Reaction with $MgSO_4$ solu-tion
A	No colour	Pink colour	Displaceme-nt reaction takes place
B	No colour	No colour	No reaction
C	Pink colour	Pink colour	Displaceme-nt reaction takes place

Write down the chemcial equation between metal 'B' and water.

Watch Video Solution

142. Certain metals are given below. Ag,Zn,Pb,Sn,Fe: When a galvanic cell is constructed us-ing these metals, which one acts only as anode? Give the reason.

Watch Video Solution

143. Certain metals are given below. Ag,Zn,Pb,Sn,Fe: Draw Zn-Fe cell. Mark the direction of electron flow and write the chemical equation at anode.

Watch Video Solution

144. $Zn(s) + 2AgNO_3(aq) \rightarrow Zn(NO_3)_2(aq) + 2Ag$: Write the oxidation state of each element in this displacement reaction.

Watch Video Solution

145. $Zn(s) + 2AgNO_3(aq) \rightarrow Zn(NO_3)_2(aq) + 2Ag$: Write the chemical equation for oxidation and reduction.

Watch Video Solution

146. Based on the reactions given below, answer the following questions: Aqueous solution of $CuCI_2$ undergoes electrolysis using graphite rods.

Watch Video Solution

147. Based on the reactions given below, answer the following questions: Molten KCI undergoes electrolysis.

Watch Video Solution

148. Based on the reactions given below, answer the following questions: Aqueous solution of NaCI undergoes electrolysis.

Watch Video Solution

149. Based on the reactions given below, answer the following questions: Aqueous solution of NaCI undergoes electrolysis.

A. (i) Aqueous solution of $CuCl_2$ undergoes electrolysis using graphite rods.

B.

C. (iii) Aqueous solution of $NaCl$ undergoes electrolysis.

D. In which all reactions CI_2 gas is formed? At which electrode is CI_2 gas formed?

Answer:

Watch Video Solution

150. Take water in 4 different beakers and add a small piece of sodium,lead,iron and copper in each: In which all solutions gas

bubbles will be formed? Which gas is formed?

Watch Video Solution

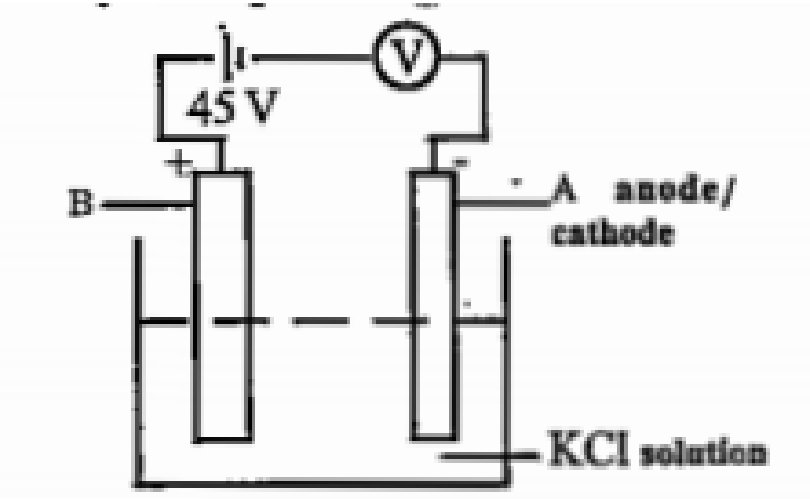
151. Take water in 4 different beakers and add a small piece of sodium,lead,iron and copper in each: Which solution will turn pink on adding phenolphthalein? Why?

Watch Video Solution

152. Take water in 4 different beakers and add a small piece of sodium,lead,iron and copper in each: Write the chemical equation between this metal and water.

Watch Video Solution

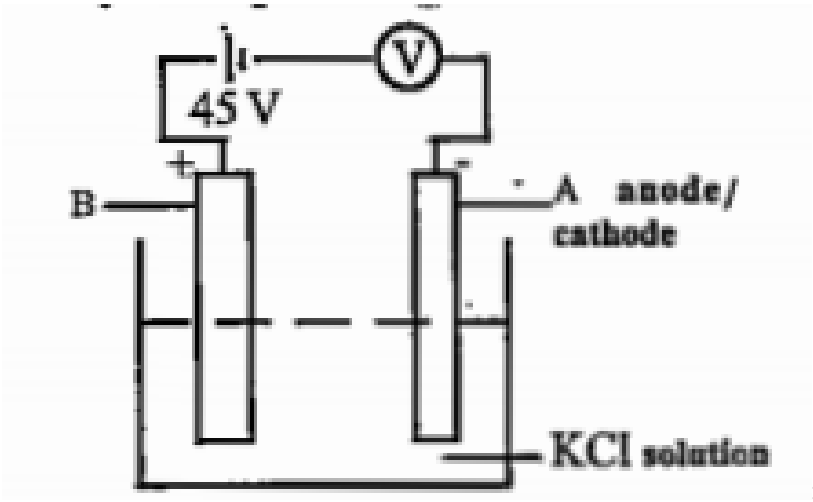
153. Analyse the picture given below.



: Identify 'A'.

Watch Video Solution

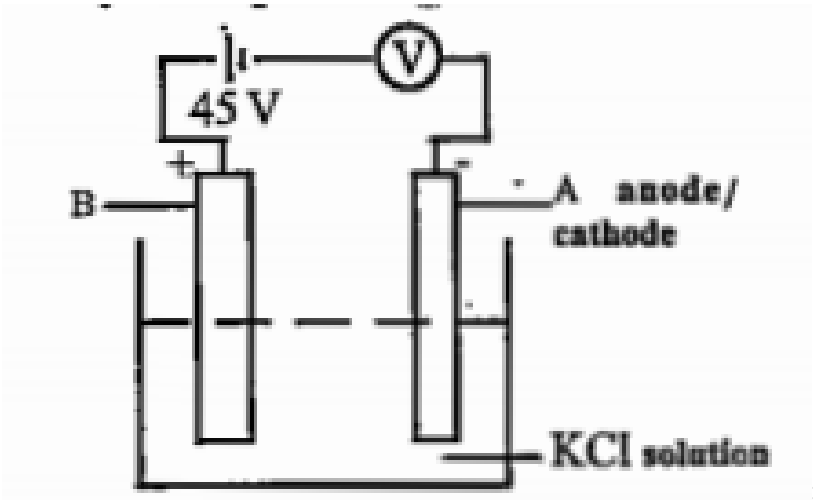
154. Analyse the picture given below.



: Write the chemical equation at 'B'.

Watch Video Solution

155. Analyse the picture given below.



: Add few drops of phenolphthalein to the remaining soultion after electrolysis. What change will take place? Why?

Watch Video Solution

156. The flow of electron in certain galvanic cells are given below:

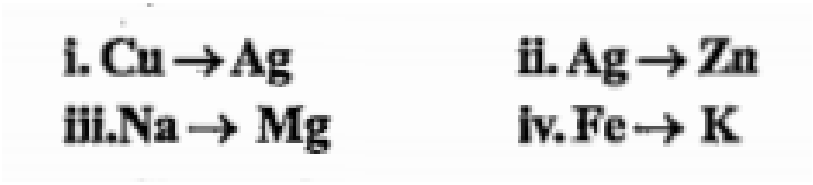
i. $Cu \rightarrow Ag$ ii. $Ag \rightarrow Zn$

iii. $Na \rightarrow Mg$ iv. $Fe \rightarrow K$

Choose the incorrect ones.

Watch Video Solution

157. The flow of electron in certain galvanic cells are given below:



Explain your answer.

Watch Video Solution

158. Is the chemical reaction given below wrong? Explain the reason:

$Cu(s) + 2HCl(aq) \rightarrow CuCl_2(aq) + H_2(g)$

Watch Video Solution

159. Is the chemical reaction given below right? Explain the reason:

$Mg(s) + Pb(NO_3)_2(aq) \rightarrow Mg(NO_3)_2(aq) + Mg(s)$

Watch Video Solution

160. Which of the statement(s) is/are correct about the reaction given below: $3Fe(s) + 4H_2O(I) \rightarrow Fe_3O_4(s) + 4H_2(g)$

A. (i) Iron metal is getting oxidised.

B. (ii) Water is getting reduced.

C. (iii) Water is acting as reducing agent.

D. (iv) Water is acting as oxidising agent.

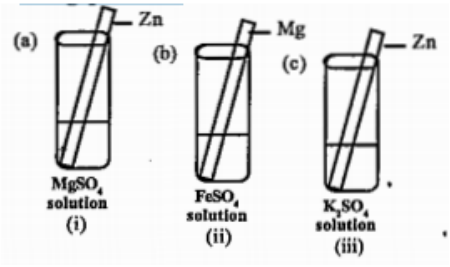
Answer:

Watch Video Solution

161. Write the chemical equation of the electrolysis of water to which little sulphuric acid (H_2SO_4) is added.

Watch Video Solution

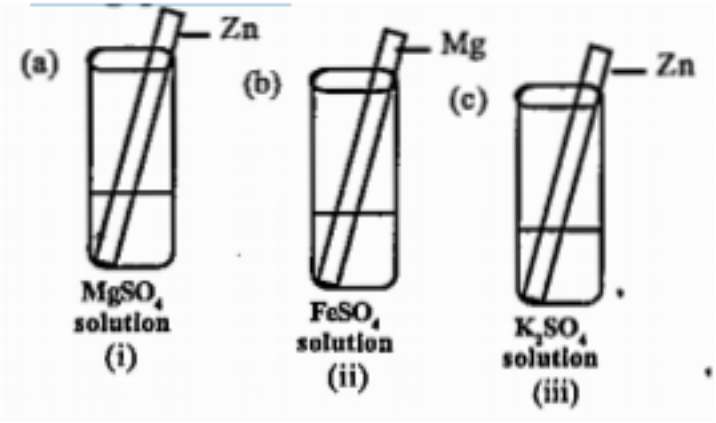
162. Analyse the reactions and answer the foll-owing questions:



Which among the followign test tubes will undergo a chemical reaction?

Watch Video Solution

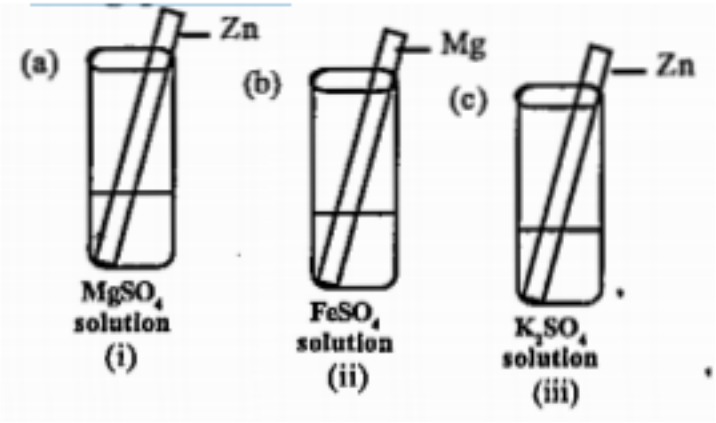
163. Analyse the reactions and answer the foll-owing questions:



What are these chemcial reactions called?

Watch Video Solution

164. Analyse the reactions and answer the foll-owing questions:



Explain the oxidation and reduction reactions taking place here including the chemical equation?

Watch Video Solution

165. A students observation is given below: When Zn is put in salt solution, Na gets deposited over Zn, Au reacts with water vapour and hydrogen gas is formed, Al reacts with acid and forms hydrogen gas,

Mg reacts with hot water and forms hydrogen gas: Which statements are incorrect?

Watch Video Solution

166. A students observation is given below: When Zn is put in salt solution, Na gets deposited over Zn, Au reacts with water vapour and hydrogen gas is formed, Al reacts with acid and forms hydrogen gas, Mg reacts with hot water and forms hydrogen gas: Which statements are incorrect?

Watch Video Solution

167. "Sodium cannot be kept open in atmospheric air,and cannot be stored in water. So it is stored in kerosene." Give explanation for the above statement with its chemical equation.

Watch Video Solution

168. The direction of electron flow in certain gal-vanic cells are given below. (Symbols are not real)$B \to A,\ E \to C,\ D \to E,\ A \to D$: Arrange the metals A,B,C,D and E in the decreasing order of their reactivity.

Watch Video Solution

169. The direction of electron flow in certain gal-vanic cells are given below. (Symbols are not real)$B \to A,\ E \to C,\ D \to E,\ A \to D$: Choose the reaction taking place at 'C' in cell (ii) $E \to C$. Give the reason. $C^+(aq) + 1e \to C(s),\quad C(s) \to C^+(aq) + 1e^-$, $C(s) \to C^+(aq) + 1e^-$

Watch Video Solution

170. Give reason for the following : $CuSO_4$ solution is not stored in iron vessels.

Watch Video Solution

171. Give reason for the following : Buttermilk is not stored in aluminium vessels.

Watch Video Solution

Exercies

1. Identify the relation and fill in the blanks. Electrolytic cell. Electrical energy $\rightarrow$ chemical energy: Galvanic cell.....

Watch Video Solution

2. Arragne the below given metals in the decreasing order of their reactivity Mg, Zn, Cu, Ag, Pb, Na, Ca.

Watch Video Solution

3. Fill in the incomplete blanks.

Electrodes	Oxidation	Reduction
Zn - Fe	..... a	..... d .....
Ni - Sn	..... b	..... e .....
Al - Cu	..... c	..... f .....

Watch Video Solution