CHEMISTRY

BOOKS - OMEGA PUBLICATION

ELECTROCHEMISTRY

Question

1. What are electrochemical cells? Name the two types of electrochemical cells.

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2. What is salt bridge? give its functions.

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3. In an electrochemical process, a salt bridge is used:

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4. What should be the characteristics of the electrolyte used in salt bridge?

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5. The function of a salt bridge is to :

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6. The cathode in a galvanic cell and electrolytic cell is

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7. What do you understand by electrode potential?

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8. Discuss the following terms :

Oxidation potential

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9. Discuss the following terms :

Reduction potential

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10. Write the IUPAC name of CH3CH2ChNO2CH(CH3)2

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11. What is electromotive force of a cell?

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12. Distinguish between emf and potential difference.

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13. What is e.m.f. of the cell, when the cell reaction attains equilibrium ?

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14. A cell is set up between copper and silver as follows :

$Cu(s)\left|Cu^{2+}(aq)\right|\left|Ag^{+}(aq)\right|Ag(s)$

If two half cells work under standard conditions, calculate the emf of the cell.

Given $E^{\circ}_{Cu^{2+}|Cu} = 0.34V$, $E^{\circ}_{Ag^{+}/Ag} = 0.80V$

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15. Arrange the following metals in the order in which they displace each other from the solution of their salts. Al, Cu, Fe,

Mg and Zn.

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16. Depict the galvanic cell in which the reaction $Zn(s) + 2Ag^+(aq) \rightarrow Zn^{2+}(aq) + 2Ag(s)$ takes place. Further show: The carriers of the current in the cell.

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17. Depict the galvanic cell in which the reaction $Zn(s) + 2Ag^+(aq) \rightarrow Zn^{2+}(aq) + 2Ag(s)$ takes place. Further show: The carriers of the current in the cell.

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18. Depict the galvanic cell in which the reaction $Zn(s) + 2Ag^+(aq) \rightarrow Zn^{2+}(aq) + 2Ag(s)$ takes place. Further show: Individual reaction at each electrode.

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19. $Mg(s) + 2Ag^+(1M) \rightarrow Mg^{+2}(1M) + 2Ag(s)$ Write cell representation for above reaction.

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20. Given the standard electrode potentials: $\frac{K^+}{K} = -2.93V$. `Ag^+/Ag=0.80V',Arrange these metals in their increasing order of reducing power.

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21. Describe the construction of standard hydrogen electrode.

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22. Why is it not possible to measure the single electrode potential?

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23. Define electrochemical series and give one application of it.

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24. How is the electro-chemical series helpful in determining whether a metal can displace hydrogen from acid or not ?

Explain.

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25. Explain whether following reaction is feasible or not :

$2Ag(s) + Cu^{2+}(aq) \rightarrow Cu(s) + 2Ag^{+}(aq)$

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26. For the reaction :

$Ni(s) + 2Ag^{+}(1M) \rightarrow Ni^{+2}(1M) + 2Ag(s).$

Which species get reduced?

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27. Can you store silver ions solution in copper vessel ? Whyor why not ?

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28. Can you store copper sulphate solutions in a zinc pot?

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29. E° values for Fe^{3+}/Fe^{2+} and Ag^{+}/Ag are 0.771 V and 0.8 respectively. Is the reaction,

$Fe^{3+} + Ag \rightarrow Fe^{2+} + Ag^{+}$

Spontaneous or not ? Give reason also.

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30. What is Nernst's equation? Write the mathematical relation.

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31. Write Nernst equation and calculate e.m.f. of the cell at 298 k.

$$Mg(s)\left|Mg^{2+}(0.001M)\right|\left|Cu^{2+}(0.0001M)\right|Cu(s)$$

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32. Zinc rod is dipped in 0.1 M solution of ZnSO4. The salt is 95% dissociated at this dilution at 298 K. Calculate the electrode potential. [Given EZn2+/Zn = +(-0.76 V]

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33. Derive Nernst equation for the following cell:

$NiNi^{2+}(0 \cdot 2M) \mid \mid Cu^{2+}(0 \cdot 2M) \mid Cu.$

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34. Calculate the emf of the following cell at $25^{\circ}C$:

$Ag + (0.001M \mid Ag(S) \mid \mid Cu(s)$|Cu^(2+)(10^(-1)M), E0Cell =0.46V

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35. Calculate the emf of the following cell at $25^{\circ}C$ Ag(s) |Ag+ (10^(-3)M) | |Cu 2+ (10^(-1)M | Cu(s) :

Given $E^{\circ}_{\text{cell}} = +0.46V$ and $\log 10^{n} = n.$

A. Ag(s) |Ag+ (10^(-3)M) | |Cu 2+ (10^(-1)M | Cu(s)

B.

C.

D.

Answer:

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36. Derive equilibrium constant from Nernst equation.

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37. How is equilibrium constant calculated from the Nernst's equation ? Derive the relation using suitable example.

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38. Represent the cell in which the following reaction takes place:

$Mg(s) + Cu^{2+}(0.0001M) \rightarrow Mg^{2+}(0.1M) + Cu(s).$

Calculate its E, if E° is $2.71V$.

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39. Calculate the potential of hydrogen electrode income with a solution whose pH is 10.

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40. Write Nernst equation and calculate e.m.f. of the cell at 298 k.

$Mg(s)\left|Mg^{2+}(0.001M)\right|\left|Cu^{2+}(0.0001M)\right|Cu(s)$

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41. Write the IUPAC Name of CH3CH2COCL

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42. Calculate ΔG° and equilibrium constant for the cell reaction,

$Cl_2 + 2l^- \Leftrightarrow 2Cl^- + I_2$

Given that: $E^{\circ}\left(Cl_2, Cl^-\right) = 1 \cdot 36V, E^{\circ}\left(l_2, l^-\right) = 0 \cdot 536V$

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43. For the cell $Mg|Mg^{2+}||Ag^{+}|Ag$ calculate equilibrium constant at $25^{\circ}C$ and also the maximum work that can be obtained from it.

$E^{\circ}\left(Mg^{2+}, Mg\right) = -2 \cdot 37V$ and $E^{\circ}\left(Ag^{+}, Ag\right) = +0 \cdot 80V$

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44. The standard electrode potential for Daniell cell is 1. IV. Calculate the standard Gibbs energy for the reaction: Zn(s) + Cu^(2+) (aq) rarr Zn^(2+)(aq) + Cu(s)

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45. Calculate the cell e.m.f. and ΔG for the cell reaction at $25^{\circ} C$ for the cell:

$Zn_{(s)} \left| Zn^{2+}(0.004M) \right| \left| Cd^{2+}(0.2M) \right| Cd_{(s)}$

E° values at $25^{\circ} C$, $Zn^{2+} / Zn = -0.763V$

$Cd^{+2} / Cd = -0.403V$

$F = 96,500, R = 8.314 JK^{-1} \text{mole}^{-1}.$

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46. Calculate ΔG and E_{cell} for the cell:

$AI / AI^{3+}(0.01M) \mid \mid Fe^{2+}(0.02M) / Fe$ given that

$E^{\circ}\left(Al^{3+} / Al\right) = -1.66V$ and $E^{\circ}\left(Fe^{2+} / Fe\right) = -0.44V$

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47. In the button cells widely used in watches and other devices the following reaction takes place: Zn(s) + Ag20(s) + H2O(l) Zn2+(aq) + 2Ag(s) + 20H“(aq) Determine rG and E for the reaction.

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48. How many moles of mercury will be produced by electrolysing 1.0 M Hg $(NO_3)_2$ solution with a current of 2.00 A for 3 hours ?

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49. A voltaic cell is set up at $24^\circ C$ with the following half-cells $AI^{3+}(0.001M)$ and $Ni^{2+}(0.50M)$. Write an equation for the

reaction that occurs when the cell generates an electric current and determine the cell potential.

(Given : $E^{\circ}_{Ni^{2+}/Ni} = -0.25V, E^{\circ}_{Al^{3+}/Al} = -1.66V$)

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50. Define metallic conductors ?

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51. What is resistance ? Also, discuss mathematical relation. Write its units.

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52. Define conductance. Write its relation with resistance. Write its units.

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53. Define specific resistance and state its unit?

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54. Define Specific conductance.

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55. What is the effect of temperature on the electrical conductivity of metallic conductors ?

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56. The IUPAC Name of CH3CH2CHCLCH2COOH

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57. Why does the conductivity of a solution decrease with dilution?

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58. Write two difference between conductance and conductivity.

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59. What is cell constant? Give its units..

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60. What is molar conductance ? Also write the mathematical relation and its units.

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61. Unit of equivalent conductance is:

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62. Write the mathematical relation for equivalent conductance.

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63. The conductivity of $0.20 MKCl$solution at 298 K is $0.0248 Scm^{-1}$. Calculate its molar conductivity.

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64. The electrical resistance of a column of 0.05 mol L^{-1} NaOH solution of diameter 1 cm and length 50 cm is 5.55×10^3 ohm. Calculate its resistivity, conductivity and molar conductivity.

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65. Conductivity of 0.00241 M acetic acid is 7.896 x 10^(-5) S cm^(-1). Calculate its molar conductivity. If A°_m for acetic acid

is $390.5 S cm^2\ mol^{-1}$, what is its dissociation constant?

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66. A 0.05 M NaOH solution offered a resistance of 31.6 ohm ina conductivity cell at 298 K. if the area of the plates of the conductivity cell is 3.8 cm^2 and distance between them 1.4 cm. calculate the molar conductivity of the NaOH solution.

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67. The resistance of a conductivity cell containing 0.001M KC1 solution at 298 K is 1500 . What is the cell constant if conductivity of 0.001M KC1 solution at 298 K is 0.146 x 10“3 S cm-1.

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68. The resistance of a 0.5 M solution of an electrolyte in a conductivity 'cell was found to be 25 ohm. Calculate the molar conductivity of the solution, if the electrodes in the cell are 1.6 cm apart and have an area of $3 \cdot 2cm^2$.

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69. A conductivity cell has its electrodes 1 cm apart and each electrode has area of cross-section 2 cm^2, when filled with M/50 solution of sodium acetate, the cell shows a resistance of 166.5 ohms. Calculate the molar conductance of sodium acetate solution at the givne concentration.

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70. A 0.05 M NaOH solution offered a resistance of 31.6 ohm ina conductivity cell at 298 K. if the area of the plates of the conductivity cell is 3.8 cm^2 and distance between them 1.4 cm. calculate the molar conductivity of the NaOH solution.

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71. What is a strong electrolyte?

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72. Define conductivity and molar conductivity for the solution of an electrolyte. How do they vary when the concentration of electrolyte in the solution increases ?

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73. Explain the variation of conductivity of a metallic conductor with temperature?

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74. Explain the variation in molar conductivity of weak electrolyte with concentration.

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75. What are weak electrolytes ? Give examples.

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76. What is the effect of decreasing concentration on molar conductivity of weak electrolyte ?

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77. The molar conductance of NaCl solution at different concentration at 298K are given below :

$C\left(molL^{-1}\right)$	$\wedge_m\left(Scm^2mol^{-1}\right)$
0.001	123.7
0.010	118.5
0.020	115.75
0.050	111.06

Plot a graph between $\wedge_m$ and $C^{1/2}$ and determine the value of $\wedge^\circ m$ from it.

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78. Define degree of ionisation. Write mathematicl relation for it.

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79. State and explain Kohlrausch's law. How would you determine the molar conductance of a weak electrolyte at infinite dilution?

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80. What are the applications of Kohlrausch's law ?

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81. The λ° values of KNO_3 and $LiNO_3$ are 145.0 and 110.1 S cm^2mol^{-1} respectively. The λ° value of K^+ ion is $73.5\mathrm{S}\ \ cm^2mol^{-1}$. Calculate $\lambda^{\circ}\left(Li^+\right)$.

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82. What is an electrolytic cell ?

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83. State Faraday's first law of electrolysis.

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84. what is electrolysis?

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85. Predict the products of electrolysis in each of the following:

An aqueous solution of $AgNO_3$ with silver electrodes.

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86. Predict the products of electrolysis in each of the following:

An aqueous solution of $AgNO_3$ with silver electrodes.

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87. Predict the products of electrolysis in each of the following:

An aqueous solution of $AgNO_3$ with platinum electrodes.

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88. Predict the products of electrolysis in each of the following:

A dilute solution of H_2SO_4 with platinum electrodes.

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89. Predict the products of electrolysis in each of the following:

An aqueous solution of $CuCl_2$ with platinum electrodes.

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90. Predict and explain the products of electrolysis of molten NaCl using platinum electrodes.

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91. State Faraday's first law of electrolysis.

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92. How much charge is required for the following reductions: 1 mol of Al^(3+) to Al?

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93. How much charge is required for the following reductions: 1 mol of $Cu^{2+} \rightarrow Cu$?

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94. How much charge is required for the following reductions: 1 mol of $MnO4^{-}$ to Mn^(2+)?

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95. Calculate number of proton , neutron and electron in element potassium with atomic number 19 and mass number 39.

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96. Describe the electrolytic process for manufacture of chlorine.

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97. How many coulombs are required for the reduction of one mole of aluminiium ?

$Al^{3+} + 3e^- \rightarrow Al$

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98. How much electricity in terms of Faraday is required to produce :20.0 g of Ca from molten $CaCl_2$?

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99. How much electricity in terms of Faraday is required to produce : 40.0 g of Al from molten A1203?

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100. Three conductivity cells A, B and C containing solutions of zinc sulphate, silver nitrate and copper sulphate respectively are connected in series. A steady current of 1.5 amperes is passed through them until 1.45 g of silver is deposited at the cathode of cell B. How long did the current flow ? What mass of copper and what mass of zinc got deposited in their respective cells ? (Atomic mass : Zn = 65.4 u, Ag = 108 u, Cu = 63.5 u)

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101. Write four differences between metallic conductors and electrolytic conductors.

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102. Write each half cell reaction of the following electrochemical cell:

$Al(s)\left|Al^{3+}(1M)\right|\left|Zn^{2+}(1M)\right|Zn(s)$

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103. Write four differences between galvanic (or electrochemical) cell and electrolytic cell.

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104. Write each half cell reaction of the following electrochemical cell:

$Na(s)\left|Na^{+}(1M)\right|\left|Fe^{3+}(1M)\right|Fe(s)$

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105. Write each half cell reaction of the following electrochemical cell:

$Cu(s)\left|Cu^{2+}(1M)\right|\left|Ag^{+}(1M)\right|Ag(s)$

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106. Define battery.

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107. What are primary cells ? Give two examples.

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108. Write short note on dry cell.

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109. Calculate the number of electron, proton and neutron in sulphide ion (S*-2)

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110. Calculate the frequency and wavelength of photon with energy 5 (10*-8)J.

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111. Write short note on lead storage battery.

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112. Explain the working of nickel-cadmium storage cell.

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113. An element with symbol Fe having mass number 56 and atomic number 26. Calculate the number of proton , neutron and electron.

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114. What are primary and secondary cell? How do they differ from each other?

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115. What are fuel cells ? Give example.

Watch Video Solution

116. What are fuel cells ? Discuss $H_2 - O_2$ fuel cell. List some advantages of fuel cells over other cells.

Watch Video Solution

117. What are fuel cells ? Discuss $H_2 - O_2$ fuel cell. List some advantages of fuel cells over other cells.

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118. What is corrosion?

Watch Video Solution

119. The chemical formula of rust is:

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120. Calculate the number of electron, proton and neutron in aluminuim ion (Al^{3+})

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121. Explain the mechanism of rusting.

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122. State reasons for the following, "Rusting of iron is said to be an electrochemical phenomenon."

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123. Discuss the electrochemical theory of corrosion.

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124. An element with symbol Zn^{2+} having mass number 64 and atomic number 30. Calculate number of protons , electrons and neutrons.

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125. An element with symbol Cl-having mass number 35 and number of neutron and electron 18. calculate atomic number and number of proton.

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126. Name the metal used in galvanisation of iron?

Watch Video Solution

127. What is galvanisation?

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Multiple Chocie Question

1. Strong electrolytes are those which:

A. dissolve readily in water

B. conduct electricity

C. dissociate into ions at high dilution

D. completely dissociate into ions at all dilutions.

Answer: D

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2. Which of the following is a strong electrolyte?

A. $Ca(NO_3)_2$

B. HCN

C. CH_3COOH

D. NH_4OH

Answer: A

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3. Which of the following is a poor conductor of electricity?

A. CH_3COONa

B. C_2H_5OH

C. $NaCl$

D. KOH

Answer: B

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4. Electrolysis involves oxidation and reduction respectively at

A. anode and cathode

B. cathode and anode

C. at both the electrodes

D. none of the above

Answer: A

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5. At anode in the electrolysis of fused sodium chloride

A. Na^+ is oxidised

B. Cl^- is oxidised

C. Cl is reduced

D. Na is reduced

Answer: B

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6. An element with symbol Ar having number of proton 18 and number of neutron 22. Calculate the mass number , atomic number and number of electron.

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7. The cathode in a galvanic cell and electrolytic cell is

A. negatively charged in both cases

B. positively charged in both cases

C. positively charged in galvanic cell but negatively charged in an electrolytic cell

D. negatively charged in a galvanic cell but positively charged in an electrolytic cell

Answer: C

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8. During the electrolysis of NaCl solution, the gas liberated at the anode is

A. H_2

B. O_2

C. Cl_2

D. Na

Answer: C

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9. What are the products of the electrolysis of molten sodium chloride?

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10. Use of electrolysis is in:

A. electrorefining

B. electroplating

C. both A and B

D. none of these

Answer: C

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11. In the electrolysis of NaCl

A. Cl^- is oxidised at anode

B. Cl^- is reduced at anode

C. Cl^- is oxidised at cathode

D. Cl^- is neither reduced nor oxidised.

Answer: A

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12. Electrolytic conduction differs from metallic conduction in the fact that in the case of electrolytic conduction

A. the resistance increases with increasing temperature

B. the resistance decreases with increasing temperature

C. the flow of current does not generate heat

D. the resistance is independent of the length of the conductor

Answer: B

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13. In a galvanic cell,

A. chemical energy is converted into electricity

B. chemical energy is converted into heat

C. electrical energy is converted into heat

D. electrical energy is converted into chemical energy

Answer: A

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14. The amount of ion discharged during electrolysis is not directly proportional to

A. resistance

B. time

C. current

D. chemical equivalent

Answer: A

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15. What is the symbol of the species with the number of electrons equal to 36 , protons equal to 35 and neutrons equal to 45?

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16. When the same quantity of electricity is passed through the solutions of different electrolytes in series, the amounts of products obtained are proportional to their

A. atomic weights

B. chemical equivalent

C. gram molecular volumes

D. gram atomic ions

Answer: B

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17. Faraday's laws of electrolysis are related to

A. atomic number of the cation

B. atomic number of anion

C. equivalent weight of the electrolyte

D. speed of the cation

Answer: C

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18. Give the general representation of the symbol of the element X is (Z = atomic number , A = mass number)

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19. Find the number of neutrons in deuterium .

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20. The unit of specific conductance is: ohm, $ohm^{-1}cm^{-1}$ $ohm^{-1}cm$ ohm^{2}

A. ohms cm^{-1}

B. $ohms^{-1}cm^{-1}$

C. ohms cm^{-2}

D. $ohms^{-1}cm$

Answer: B

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21. The conductivity of a strong electrolyte:

A. increases on dilution slightly

B. does not change on dilution

C. decreases on dilution

D. depends on density of electrolyte itself

Answer: A

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22. K, Ca and Li metals may be arranged in the decreasing order of their standard electrode potentials as

A. K, Ca, Li

B. Li, K, Ca

C. Li, Ca, K

D. Ca, K, Li

Answer: D

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23. The units of conductivity are

A. ohm^{-1}

B. $ohm^{-1}cm^{-1}$

C. $ohm^{-2}cm^{2}\ \text{equiv}^{-1}$

D. $ohm^{-1}cm^{2}$

Answer: B

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24. For a redox reaction to proceed in a cell, the e.m.f. must be:

A. positive

B. negative

C. fixed

D. zero

Answer: A

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25. The standard EMF of Daniel cell is 1.10V. The maximum electrical work obtained from the cell is $[Ifn = 2]$:

A. 175.4 kJ

B. 212.3 kJ

C. 106.15 kJ

D. 53.07 kJ

Answer: B

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26. The electrode potential of SHE is fixed as

A. 0.34 V

B. $-0.44V$

C. zero

D. $-0.76V$

Answer: C

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27. Copper sulphate solution cannot be stored in a vessel made up of: Zinc, Glass, Copper, Plastic.

A. zinc

B. Glass

C. Copper

D. Plastic

Answer: A

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28. Which of the following statements is false?

A. Oxidation and reduction half reactions occur at electrodes in electrochemical cells

B. All voltaic (galvanic) cell in volva the use of electricity to initiate non-spontaneous chemical Reactions.

C. Reduction occurs at the cathode

D. Oxidation occurs at the anode

Answer: B

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29. for the electrorode reaction,

$M^{n+}(aq) + ne^- \rightarrow M(s)$

Nernst equation is: $E = E^o + \frac{RT}{nF} \ln \frac{1}{[M^{n+}]}$,

$E = E^o + RT\ln\left[M^{n+}\right]$, $E = E^o + \frac{RT}{nF}ln\left[M^{n+}\right]$,

$\frac{E}{E^o} = \frac{RT}{nF}ln\left[M^{n+}\right]..$

A. $E = E^\circ + \frac{RT}{nF}\log\frac{1}{[M^{n+}]}$

B. $E^\circ = E^\circ + RTIn\left[Mn^+\right]$

C. $E = E^\circ + \frac{RT}{nF}In\left[M^{n+}\right]$

D. $\frac{E}{E^\circ} = \frac{RT}{nF}In\left[M^{n+}\right]$

Answer: A

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30. The tendencies of the electrodes made up of Cu,Zn and Ag to release electrons, when dipped in their respective salt solutions decreases in the order: $Zn > Ag > Cu$, $Cu > Zn > Ag, Zn > Cu > Ag, Ag > Cu > Zn.$

A. $Zn > Ag > Cu$

B. $Cu > Zn > Ag$

C. $Zn > Cu > Ag$

D. $Ag > Cu > Zn$

Answer: C

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31. Strong electrolytes are those which:

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32. Electrolysis involves oxidation and reduction respectively at

A. anode and cathode

B. cathode and anode

C. at both the electrodes

D. none of the above

Answer: A

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33. The cathode in a galvanic cell and electrolytic cell is

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B. positively charged in both cases

C. positively charged in galvanic cell but negatively charged in an electrolytic cell

D. negatively charged in a galvanic cell but positively charged in an electrolytic cell

Answer: C

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34. During the electrolysis of NaCl solution, the gas liberated at the anode is

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35. In a galvanic cell,

A. chemical energy is converted into electricity

B. chemical energy is converted into heat

C. electrical energy is converted into heat

D. electrical energy is converted into chemical energy

Answer: A

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36. Law of electrolysis was given by

A. Lamarck

B. Ostwald

C. Faraday

D. Arrhenius

Answer: C

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37. Faraday's laws of electrolysis are related to

A. atomic number of the cation

B. atomic number of anion

C. equivalent weight of the electrolyte

D. speed of the cation

Answer: C

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38. The units of conductivity are

A. ohm^{-1}

B. $ohm^{-1}cm^{-1}$

C. $ohm^{-2}cm^{2}\ \text{equiv}^{-1}$

D. $ohm^{-1}cm^{2}$

Answer: B

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39. In a dry cell the depolarizer is :

A. MnO_2

B. Zn

C. Charcoal powder

D. NH_4Cl

Answer: D

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40. The units of cell constant are: $ohm^{-1}cm^{-1}$, cm, $ohm^{-1}cm, cm^{-1}$

A. $ohm^{-1}cm^{-1}$

B. cm

C. $ohm^{-1}cm$

D. cm^{-1}

Answer: D

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41. Unit of equivalent conductance is:

A. $ohm^{-1}cm^{-1}$

B. $Ohm^{-1}cm^{-2}$

C. $Ohm^{-1}cm^{2}$

D. $Ohm^{-1}cm^{2}$ (g.eq.)

Answer: D

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42. In an electrochemical cell,

A. potential energy decreases

B. kinetic energy decreases

C. potential energy changes into electrical energy

D. chemical energy changes into electrical energy

Answer: D

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43. The units of cell constant are: $ohm^{-1}cm^{-1}$, cm, $ohm^{-1}cm$, cm^{-1}

A. $ohm^{-1}cm^{-1}$

B. cm

C. $ohm^{-1}cm$

D. cm^{-1}

Answer: D

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44. The unit of specific conductance is: ohm, $ohm^{-1}cm^{-1}$ $ohm^{-1}cm$ ohm^2

A. Ohm

B. $Ohm^{-1}cm^{-1}$

C. $Ohm^{-1}cm$

D. Ohm^2

Answer: B

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45. The units of cell constant are: $ohm^{-1}cm^{-1}$, cm, $ohm^{-1}cm$, cm^{-1}

A. $ohm^{-1}cm^{-1}$

B. cm

C. $Ohm^{-1}cm$

D. cm^{-1}

Answer: B

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46. Consider the following reactions:

$$Zn(s) + cu^{2+}(aq) \rightarrow Zn^{2+}(aq) + Cu(s)$$

With reference to the above reaction which one of the following is correct statement:

A. Zn is reduced to Zn^{+2}

B. Zn is oxidised to Zn^{+2} ions

C. Zn^{+2} ions are oxidised to Zn

D. Cu^{+2} ions are oxidised to Cu

Answer: B

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