INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2023-24

CLASS: 12 SUBJECT: CHEMISTRY DATE: 04/07/2023

LESSON : CH-2 ELECTRO CHEMISTRY

Q.1 Galvanised iron sheets are coated with
(a) Carbon (b) Copper (c) Zinc (d) Nickel

Q.2 A potential developed between the electrode and electrolyte in an electrochemical cell is called as
(a) Electrode potential (b) Zeta potential (c) Cell potential (d) No potential develops

Q.3 In Galvanic cell, conventional,
(a) Anode is on the left hand side and is (+ve) electrode
(b) Cathode is on the left hand side and is (+ve) electrode
(c) Anode is on the left hand side and is (–ve) electrode
(d) None

Q.4 Rust is a mixture of
(a) FeO and Fe $(OH)_3$ (b) FeO and Fe $(OH)_2$
(c) Fe_2O_3 and Fe $(OH)_3$ (d) Fe_3O_4 and Fe $(OH)_3$

Q.5 A zinc rod is dipped in 0.1 M solution of $ZnSO_4$. The salt is 95% dissociated at this dilution at 298K. Calculate the electrode potential.
[E^c (Zn^2 / Zn) = - 0 76 V]

Q.6 Define molar conductivity of a solution and explain how molar conductivity changes with change in concentration of solution for a weak and a strong electrolyte

Q.7 Write the name of the cell which is generally used in hearing aids. Write the reactions taking place at the anode and the cathode of this cell.

Q.8. What type of battery is lead storage battery? Write the anode and cathode reactions and the overall cell reaction occurring in the operation of a lead storage battery.

Q.9 Represent the cell in which the following reaction takes place
$Mg_{(s)} + 2Ag^+ (0.0001M) \longrightarrow Mg^{2+} (0.130M) + 2Ag_{(s)}$.
Calculate its E_{cell}, if $E^{\ominus}_{cell} = 3.17$ V. (Given log 0.13 = - 0.89)

Q.10 State and explain Kohlrausch's law of independent migration of ions. Write an expression for the molar conductivity of acetic acid at infinite dilution according to Kohlrausch's law

Q.11 What are fuel cells? Discuss H_2 - O_2 fuel cell. List some advantages of fuel cells over other cells?

Q.12 Write the Nernst equation of the following cell .
$Mg_{(s)} / Mg^{2+}_{(aq)} // Ag^{+}_{(aq)} / Ag$

Q.13 The resistance of a conductivity cell containing 0.001 M KCl solution at 298K Is 1500Ω. What is the cell constant if the conductivity of 0.001M KCl solution at 298 K is 0.146×10^{-3} S cm^{-1}

Q.14 Conductivity of 2.5×10^{-4} M methanoic acid is 5.25×10^{-5} S Cm^{-1}. Calculate its molar conductivity ?

Q.15 Formulae the galvanic cell in which the following reaction takes place.
$Zn_{(s)} + 2Ag^{+} \longrightarrow Zn^{2+}_{(aq)} + 2Ag_{(s)}$

(i) Which one of its electrode is negatively charged?

(ii) The reaction taking place at each of its electrode.

(iii) The carriers of current within this cell.