



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

## SOLUTION-33(CLASS-12)

### TOPIC- ELECTROCHEMISTRY

### SUBTOPIC- CONDUCTANCE



**SUBJECT – CHEMISTRY**

**DURATION – 30 mins**

**F.M. - 15**

**DATE -30.06.20**

**1.1 Aqueous solution of which of the following compounds is the best conductor of electric current?**

(a) Acetic acid (b) Hydrochloric acid (c) Ammonia (d) Fructose

**Ans. b**

**1.2 The unit of conductance-**

(a) Siemens (b) mho (c) Ohm (d) Both a and b

**Ans. a**

**1.3 An increase in the conductivity equivalent of a solid electrolyte with dilution is primarily due to-**

(a) Increased ionic mobility of ions (b) 100 percent electrolyte ionisation with natural dilution  
(c) increase in both ion numbers and ionic mobility (d) A rise in ion counts

**Ans. a**

**1.4 The ionic conductance of  $\text{Ba}^{2+}$  and  $\text{Cl}^-$  are respectively 127 and 76  $\text{ohm}^{-1}$  at infinite dilution. The equivalent conductance of  $\text{BaCl}_2$  at infinite dilution will be-**

(a) 139 (b) 203 (c) 279 (d) None of these

**Ans. c**

**1.5 When heating one end of a metal plate, the other end gets hot because of –**

(a) Resistance of the metal (b) mobility of atoms in the metal (c) energised electrons moving to the other end (d) minor perturbation in the energy of atoms.

**Ans. d**

**1.6 The weight of silver displaced by a quantity of electricity which displaces 5600ml of  $\text{O}_2$  at STP will be-**

(a) 5.4g (b) 10.8g (c) 54.9g (d) 108.0g

**Ans. a**

**1.7 On electrolysis of dilute sulphuric acid using platinum electrodes, the product obtained at the anode will be-**

a) Hydrogen (b) oxygen (c) hydrogen sulphide (d) Sulphur dioxide

**Ans. b**

**1.8 Once a current of 1.0 ampere was passed through one liter of  $\text{CuCl}_2$  solution for 16 min and 5sec, all of the solution's copper was deposited at cathode. The power of solution  $\text{CuCl}_2$  was (Molar mass of Cu = 63.5; Faraday constant = 96,500 C/ mol)-**

(a) 0.01N (b) 0.01M (c) 0.02M (d) 0.2N

**Ans. a**

**1.9 A device that converts energy of combustion of fields like hydrogen and methane directly into electrical energy is known as-**

a) Electrolytic cell b) Dynamo c) Ni-Cd cell d) Fuel cell

**Ans. d**

**1.10 Which reaction is not feasible?**

a)  $2\text{KO} + \text{Br}_2 \rightarrow 2\text{KBr} + \text{I}_2$  b)  $2\text{KBr} + \text{I}_2 \rightarrow 2\text{KI} + \text{Br}_2$  c)  $2\text{KBr} + \text{Cl}_2 \rightarrow 2\text{KCl} + \text{Br}_2$

d)  $2\text{H}_2\text{O} + 2\text{F}_2 \rightarrow 4\text{HF} + \text{O}_2$

**Ans. b**

**1.11 The unit of equivalent conductivity-**

a)  $\text{S cm}^2 \text{ equivalent}^{-1}$  b)  $\text{S cm}^2 \text{ equivalent}$  c)  $\text{S cm}^3 \text{ equivalent}$  d)  $\text{S cm equivalent}$

**Ans. a**

**1.12 Without losing its concentration  $\text{ZnCl}_2$  solution cannot be kept in contact with-**

a) Au b) Al c) Pb d) Ag

**Ans. b**

**1.13 The factors which determine the flow of electricity through a solution-**

a) Nature of electrolyte or interionic attractions b) The nature of the solvent and its viscosity c) Potential difference d) Both a and b

**Ans. d**

**1.14 Electrode potential of a cell is-**

a) An intensive property b) Extensive property c) Both a and b d) can't be predicted

**Ans. a**

**1.15 The conductivity of electrolytic (ionic) solutions depends on-**

a) the nature of the electrolyte added b) temperature c) size of the ions produced and their solvation d) all of these

**Ans. d**

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