Brain International School
Vikas Puri, New Delhi

ASSIGNMENT NO 1

SUBJECT: CHEMISTRY CLASS-XII APRIL-MAY'20 26

Chapter:1 Solutions

Very short answer type questions(2 marks)

1. Give an example of 'liquid in solid' type solution.
2What is meant by semimolar and decimolar solutions?
3. Under what condition is van't Hoff factor less than one?
4. What is the maximum value of van't Hoff factor (i) for Na_2SO_4 . $10H_2O$?
5. When 1 mole of NaCl is added to 1 litre water, the boiling point increases?
   When 1 mole of CH_3OH is added to 1 litre water, the boiling point decreases? Suggest reasons.

Short answer type questions(3 marks)

1. When 1 mole of NaCl is added to 1 litre water, the boiling point increases?

   When 1 mole of CH_3OH is added to 1 litre water, the boiling point decreases? Suggest reasons.
2. Account for the following:–
   (a) $CaCl_2$ is used to clear snow from roads in hill stations.
   (b) Ethylene glycol is used as antifreeze solution in radiators of vehicles in cold countries.
   (c) The freezing point depression of 0.01 m NaCl is nearly twice that of 0.01 m glucose solution.
3.What is Vant's Hoff factor? Explain with example

Long answer type questions (5 marks)

1.Explain negative and positive deviation with graph and example.

2.What is antifreeze mixture? Among Ethanol and glucerol which is better antifreeze.

3.What is reverse osmosis? Write its one use.How synthetic SPM is prepared?

Chapter-2 Electrochemistry

Very short answer type questions (2 marks)

1.Give example of (a)natural SPM (b) artificialSPM.(20-23)2.(a)What is value of 'I' for Potassium ferrocynate?

2. Glucose has five OH groups but value i= 1explain it.(20-22)

3. Find he boiling point of0.2m solution of non-electrolyte in water[kb=0.52kkg/mol]

4. Write the difference between ideal and non-ideal solution(20-24)

5.Give differences between electrochemical cell and Electrolytic cell.

Short answer type questions(3 marks)

1. Calculate the e.m.f. of the cell at 25^0C

$Zn \mid Zn^{+2}(0.01M) \parallel Fe+2\ (0.005M) \mid Fe$

E (Zn^{+2} | Zn) 0.763V and E (Fe^{+2} /Fe) 0.44V(20-23)

2. Solution of two electrolytes 'A' and 'B' are diluted. the molar conductivity of 'B' increase 1.5 times while that of A increase 25 times. Which of the two is strong electrolyte? Justify(20-24).

3. When H_2SO_4 solution is electrolysed, will the pH of solution be affected? Justify(2024)

4. A solution containing one mole per liter of each $Cu(NO_3)_2$,$AgNO_3$,$Hg_2(NO_3)_2$ is being electrolyzed by using inert electrodes. The value of reduction potential are+0.80,+0.79 ,0.34V ,0.237 volts respectively What will be the sequence of deposition of metals at cathode.(20-25)

Long answer type questions(5Marks)

1.(a) Why dry cell does not have an indefinite life?

(b)Why primary batteries or cells are not chargeable?

2.Write electrolysis products of $CuCl_2$ and NaCl solution.

3.Draw diagram of Lead storage battery and Fuel cell write Chemical reactions for function.(20-22)

4. Find Maximum work done by cell and equilibrium state of given cell.

$Zn/\ Zn^{2+}(0.01M)//\ Ag^{+}_{(0.001M)}/Ag$ (20-24)