Class 12   WORKSHEET

CH 2- SOLUTIONS

1.Spreading of common salts on the icy roads in a practical applications on depression   in freezing point.Can we use CaCl2 in place of NaCl? Why?

2. What type of azeotrope is formed on mixing nitric acid and water?

3. When 30 ml gram ethanol and 30 ml gram of water are mixed,the volume of resulting solution is more than 60 ml.Give reason.

4. Aquatic species feel more comfortable during winter then summer season. Why?

5.vendors selling aerated drinks bottles are adviced to keep them immersed inside cold water during summer. Why?

6. If α is the degree of dissociation of Na2SO4 then write the vant hoff factor used for calculating the molecular mass.

7. If $6.023 \ x \ 10^{20}$ mole cubes of urea are present in 100 ml of its solution, then what is the concentration of urea solution?

8. Why a person suffering from high blood pressure is advised to take minimum quantity of common salt?

9. Which colligative property is preffered for the molar mass determination of macro molecules.Why?

10. 0.004 M solution of Na2So4 is isotonic with 0.01M solution of glucose at a given temperature. What is the apparent degree of dissociation of Na2SO4.

CH 3
ELECTRO CHEMISTRY

1. What is the no of electrons in 1 coloumb of charge?

2. Which solution will allow greater conductance of electricity, 1M NaCl at 293k or 1M NaCl At 323K and why?

3. Why is the equilibrium const. K related to only E^0 cell and not to Ecell ?

4. What is the sign of $\triangle$ G for an electrolytic cell?

5. Rusting of iron is quicker in saline water than in ordinary water why ?

6. Can a nickel spatula be used to stir a solution of copper sulphate ?. Justify your answer.[E^0 Ni^{2+}/Ni = -0.25V & E^0 Cu^{2+}/Cu = 0.34V]

7. What would happen if the protective tin coating over an iron bucket is broken in some places. ?

8. Which out of 0.1M HCL and 0.1M NaCl, do you expect to have greater λ_m^0 value and why?

9. What will be the E.M.F, when the cell reaches equilibrium.?

10. Which will have greater molar conductivity? Solution containing 1 mole KCl in 200 cc.or 1 mol g KCL in 500cc.

CH 5

SURFACE CHEMISTRY

1. In the titration of oxalic acid by acidified KMnO4 the oxidation of oxalic acid is slow in the beginning but becomes fast as the reaction progresses.Why?

2. Out of PO_4^{3-},SO_4^{2-},Cl^-,which will act as the best coagulating agent for Fe(OH)3?

3. The colloidal solution of gold prepared by different methods have different colours .Why?

4. At high pressure, the entire metal surface gets covered by a mono molecular layer of the gas .What is the order of the process?

5. During adsorbtion, $\triangle$ H = -ve .Why?

6. Out of CO and NH3 which is adsorbed on activated charcoal to a large extent and why?

7. On passing H2S through dil. HNO3, the colourless solution becomes turbid. Why?

8. What happens when freshly precipated $Fe(OH)_3$ is shaken with a little amount of dilute solution of $FeCl_3$?

9. What happens to gold solution if gelatin is added to it ?

10. Name the temperature above which micelle formation occurs.?

CH 15

POLYMERS

1. Classify the following as addition and condensation polymers :

   Terylene, Bakelite, Polyvinyl chloride, Polythene

2. Explain the difference between Buna-N and Buna-S.

3. Arrange the following polymers in the increasing order of their intermolecular forces.

   (i)   Nylon 6, 6, Buna-S, Polythene.

   (ii)   Nylon 6, Neoprene, Polyvinyl chloride.

4. Distinguish between the terms homopolymer and copolymer and give an example of each.

5. Is -(- NH – CHR- CO-) $-_n$, a homopolymer or a copolymer?

6. Write the free radial mechanism for the polymerization of ethene.

7. Define thermoplastics and thermosetting polymers.

8. Could a copolymer be formed in both addition and condensation polymerization or not ?Explain with an example

9. Discuss the synthesis of Bakelite and give its uses.

10. Write the monomers of a)PVC b)Dacron c)Nylon 6,6 d)Nylon 6

    e)Bakelite f)PHBV g) Buna s h) Buna N