

KCP SIDDHARTHA ADARSH RESIDENTIAL PUBLIC SCHOOL

KANURU :: VIJAYAWADA - 520 007.

UNIT TEST- III 2014 - 2015

Class : XII
Sub : Chemistry

Time : 90 Min.
Marks : 30

GENERAL INSTRUCTIONS:

- Answer all the questions.
- Questions 1 to 5 are very short answer type carrying 1 mark each.
- Questions 6 to 8 are short answer type carrying 2 marks each.
- Questions 9 to 11 are short answer type carrying 3 marks each.
- Questions 12 to 13 are long answer type carrying 5 marks each.

- Vapour pressure of liquid A is greater than that of liquid B at 298K. Which will have higher value of normal boiling point?
- Certain substance tetramerises when its solution is made in an organic solvent. What is its van't Hoff factor?
- Why is freezing point depression of 0.1 M Sodium Chloride solution is nearly twice that of 0.1M Glucose solution?
- What is the reaction taking place at anode during electrolysis of AgNO_3 (aq) using platinum electrode?
- How much charge is required for the reduction of 1 mol of Al^{+3} to Al?
- The elevation in boiling point of water observed for the same amount of acetic acid, trichloroacetic acid and trifluoroacetic acid increases in the order given above. Explain in brief.
- At 300 K, 36 g of glucose present per litre in its solution has an osmotic pressure of 4.98 bar. If the osmotic pressure of solution is 1.52 bar at the same temperature, what would be its concentration?
- A solution of CuSO_4 is electrolysed for 10 minutes with a current of 1.5 amperes. What is the mass of copper deposited at the cathode?
- Calculate the molefraction of benzene in solution containing 30% by mass in carbon tetrachloride.
- What type of non-ideal behaviour is exhibited by cyclohexane - ethanol and acetone-chloroform mixtures? Give reason for your answers.
- Explain the terms:
 - Conductance
 - Conductivity
 - Molar conductivityGive notation and units in each case.
- State and explain Kohlrausch law. How can it help to calculate
 - Limiting molar conductivity of weak electrolyte
 - Degree of dissociation of weak electrolyte.
- Calculate the amount of benzoic acid ($\text{H}_5\text{C}_6\text{COOH}$) required for preparing 250 ml of 0.15 M solution in methanol. 2M
 - Concentrated nitric acid used in laboratory work is 68% nitric acid by mass in aqueous solution. What should be the molarity of such a sample of the acid if the density of the solution is 1.504 gml^{-1} ? 3M