

Term test-2  
BMB 122: Biophysical Chemistry (3.04.2011)  
Time- 30 min Marks-15

1. Define Molar solution and Percent solution. 2
  2. Determine the Molarity and Molality of a solution containing 86.53g of sodium carbonate (MW=105.99) per liter in water at 20°C. The density of the solution at this temperature is 1.0816g/ml. 2
  3. What is colligative property? Write down the name of colligative properties. 2
  4. Write down the Raoult's law and express it mathematically. 2
  5. What is semipermeable membrane? Give an example. 2
  6. Define: Osmotic pressure, isotonic solution. 2
  7. True/False. If false, write the correct answer: 3
    - a) The Normality of 4.0 Molar sulphuric acid solution is 2.0 Normal.
    - b) A solution which strictly obeys the Raoult's law is called a real solution.
    - c) Elevation of boiling point is directly proportional to the lowering of vapour pressure.
    - d) Depression of freezing point is directly proportional to the increasing of vapour pressure.
    - e) 5% NaCl is a hypotonic solution relative to red blood cell.
    - f) Desalination of sea water is occurred in a process called reverse osmosis.
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