

**SENIOR SECTION**  
**DEPARTMENT OF CHEMISTRY**  
**CLASS IX**  
**IS MATTER AROUND US PURE**  
**WORKSHEET - II**

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**1. Mark Questions:**

1. How can we separate a mixture of two miscible liquids ?
2. What separation technique will you apply for separation of the following ?
  - (i) Ammonium chloride from sodium chloride.
  - (ii) Different pigments from the extract of flower petals.
3. How do we test purity of substances?
4. Name the process to separate the particles of colloid.
5. What is meant by fractionating column?
6. What are metalloids?
7. Suggest any one method by which we can increase the solubility of saturated solutions.

**2 Mark Questions:**

1. State two reasons to justify that air is a mixture and water is compound. (CCE CBSE 2012)
  2. Distinguish between homogeneous and heterogeneous mixture.
  3. Classify the following mixtures as homogeneous and heterogeneous.
    - (i) Tincture of iodine
    - (ii) Smoke
    - (iii) Brass
    - (iv) Sugar solution
  4. A solution of acetone contains 30 ml of acetone in 570 ml of water. Calculate the percentage concentration of the solute in the solution.
  5. The concentration of a salt solution in terms of mass by mass percentage is 20 and the mass of the solution is 550 g. Determine the mass of solute present in the solution.
  6. Identify the physical and chemical changes from the following
    - (i) Burning of magnesium in air
    - (ii) Electrolysis of water
    - (iii) Tarnishing of silver spoon
    - (iv) Sublimation of iodine
  7. Fine beam of light entering through a small hole in a dark room, illuminates the particles in its path. Name the process associated and Explain.
  8. Distinguish among soda water, milk and muddy water in a tabular form under the following heads :
    - (i) Stability
    - (ii) Filterability
    - (iii) Type of mixture
    - (iv) Tyndall effect
  9. a) 110 g of salt is present in 550g of solution. Calculate the concentration of solution.  
b) 10 ml of  $\text{H}_2\text{SO}_4$  is dissolved in 90 ml of  $\text{H}_2\text{O}$ . Calculate the concentration of solution.
  10. State the condition for using the method of centrifugation to separate contents of a mixture. State the principle involved in this process.
  11. Enumerate any two differences between simple distillation and fractional distillation.
  12. Few iron filings and a pinch of sulphur powder are taken in a china dish and mixed properly. Justify the change, giving two points as physical/chemical change.
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- 13.a) What is solute and solvent in aerated drinks?  
b) Given a solution of substance 'A' how will you test whether it is saturated or unsaturated with respect to 'A' at the given temperature.

**3 Mark Questions:**

1. Draw a neat labeled diagram of the apparatus used for separating acetone and water (forming a miscible mixture) from their mixture.
2. Two miscible liquids A and B are present in a solution. The boiling point of A is  $60^{\circ}\text{C}$  while that of B is  $98^{\circ}\text{C}$ . Suggest a method to separate the components of mixture. Why are they separated by this process?
3. Which technique, crystallization or evaporation is better to obtain salt from sea water? (CBSE 2013)
4. Name the technique used for separation of those solutes that dissolve in the same solvent and give any two applications of this technique.
5. What separation technique will you apply for the separation of the following?
  - a) Sodium chloride from its solution
  - b) Tea leaves from tea
  - c) Different pigments from an extract of leaves
  - d) Butter from curd
  - e) Fine mud particles suspended in water
  - f) Iron pins from sand
6. Describe the method used for separating the components of blood. List its any two applications.
7. Write any three differences between a compound and a mixture.
8. Classify the following into physical or chemical change :
  - (i) burning of a candle
  - (ii) Tarnishing of silver spoon
  - (iii) Sublimation of iodine
  - (iv) fading of clothes
  - (v) mixing of iron filings and sand
  - (vi) Electrolysis of water
9. Distinguish between elements and compounds with one example of each.
10. Elements are classified as metals, non-metals and metalloids. Give any one property of each. Also give one example of each.
11. State the principle involved in the following separating techniques.
  - i) Chromatography
  - ii) Distillation
  - iii) Evaporation
12. How will you obtain blue dye from blue ink experimentally? How is this technique different from distillation?

**Value Based Question:**

Arushi's mother always squeezes water from wet clothes in the spinner of washing machine and then uses it to clean the floor. (CBSE 2013)

- a) Write the principle of the technique used in the above mentioned process.
  - b) Write one more application of this technique.
  - c) What do you learn from Arushi's mother?
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