

# Indian School, Kingdom of Bahrain

## Class IX Chemistry Assignment

### 2. Is Matter Around Us Pure

1. What is meant by a pure substance? State one characteristic property of it.
2. What are alloys? Is it a mixture or a compound? Give reasons.
3. Differentiate between a saturated solution and an unsaturated solution. How will you test whether a given solution is saturated or not?
4. A mixture is heterogeneous. How will you know whether it is a solution, a colloid or a suspension.
5. What is observed when a hot saturated solution of a substance is allowed to cool?
6. Salt can be separated from its solution by evaporation. Name another method to do the same.
7. Differentiate between true solution, colloid and suspension on the basis of the following properties:-
  - a. Size of particles
  - b. Stability.
8. A solution contains 20g of acetic acid and 250ml of water. What is the concentration of acetic acid solution?
9. When a beam of light was passed through a solution of substance 'A' dissolved in water, the path of light could be seen. What is this phenomenon called? What is the nature of the solution?
10. Why crystallisation technique is considered better than simple evaporation technique?
11. Identify physical and chemical changes from the following.
  - a) Rusting of iron
  - b) Burning of paper
  - c) Tarnishing of silver spoon
  - d) Sublimation of iodine
  - e) Melting of butter in a pan
  - f) Formation of cloud
12. What happens when
  - a) A mixture of iron filings and sulphur powder is heated slowly.
  - b) Dilute HCl is added to mixture of iron filings and sulphur powder.
  - c) Dilute HCl is added to iron sulphide.

13. Classify the following into element, compounds and mixtures.

Milk, Copper Sulphate, Water, Blood, Carbon, Copper, Mercury,  $\text{CO}_2$ , Soil.

14. What is the advantage of fractional distillation over simple distillation?

15. Calculate the mass of sodium sulphate required to prepare its 20% (mass per cent) solution in 100g. of water

16. When blue ink is heated, what do you think has got evaporated from the watch glass?

17. Is water an element or a compound? Give reason in support of your statement.

18. Which separation technique will you apply for the separation of the following?

a) Common salt from Salt water

b) Butter from curd

c) Benzene from water

d) Tea leaves from tea

e) Common salt and iodine

f) Iron pieces from metal scrap

19. Draw a flow diagram of the process involved in obtaining gases like nitrogen, oxygen and argon from air.

20. How will you separate a mixture containing kerosene and petrol (difference in their boiling point is more than  $25^\circ\text{C}$ ) which are miscible with each other?

21. How is water purified on a large scale at water works? Name the substance which is added to kill germs in the drinking water supply.

22. What is the effect of pressure on solubility of gases?

23. Explain how you will purify an impure sample of copper sulphate.

24. Distinguish between the following

a) Sol, gel and emulsion

b) Foam and aerosol

c) Solid foam and solid sol

25. Name the technique used for the separation of those solutes that dissolve in the same solvent. Give any two applications of this technique.