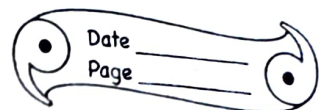


EXERCISE = 11



Define

- a) Filtration: The process of separating solid particles from liquid by ~~away~~ allowing it to pass through a filter paper is called filtration.
- b) Sublimation: The process in which a solid changes directly into its vapours on heating is called sublimation.
- c) Evaporation: Is the process of converting a liquid into its vapour state either by exposing it to air or by heating.
- d) Crystallisation: Evaporation of liquid from a homogeneous liquid solid mixture and collecting solid in the form of crystals is called crystallisation.

e) Miscible liquids: → Homogeneous liquid-liquid mixtures are called miscible liquids.

f) Immiscible liquids: → Heterogeneous liquid-liquid mixtures are called immiscible liquids.

2.

A: We need pure substances because of the following reasons:

A pure substance has a fixed melting and fixed boiling point. A pure substance has its characteristic taste, ~~at~~ colour and odour.

Pure substances can not be broken further into more simple substances by any physical means.

3.

a)

Ans

Iron and Sulphur.

b)

Ans

Sand and water, Rice and water.

c)

Ans

Sugar from its solution in water.

4)

Name the process by which the components mixture can be separated

Q.

powdered glass and sugar! -

a)

Filtration: Glass and Sugar on dissolving in water and filtering glass separates out as residue on the filter paper. Filtrate of Sugar solution heated to remove water by ~~evapo~~ evaporation. Sugar is collected as crystals.

Chalk powder and iron filings:-

b) Magnetic separation:- with the help of a magnet, iron filings can be separated leaving behind chalk powder.

Chaff and grain:-

c) Winnowing:- It separates chaff from heavier grains in two different heaps.

Salt and water:-

d) Evaporation:- This method is used to separate the components of a homogeneous solid mixture, for example salt from sea water. Sea water is collected in shallow beds and allowed to evaporate in the sun. When all the water is evaporated salt is left behind.

e) Evaporation:- wheat and sugar:-

In water in a beaker, sugar dissolves and mixture is passed through a strainer and separated and dried. Sugar is obtained by evaporating sugar solution.

④ Sand and camphor

Sublimation: Camphor sublimates on heating leaving behind sand.

⑤ Sugar and water: —

Crystallisation: pure sugar is

obtained from its solution in water by the process of crystallisation.

At first the sugar solution is heated to evaporate water at a faster speed. When very less of water is left the solution is cooled. On cooling sugar dissolved in it starts separating out in the form of crystals.

⑤ Name

a. two substances which can sublime

Ans. Camphor and Naphthalene

(b) two substances soluble in water
Sugar and salt (NaCl)

(c) two substances insoluble in water
Sand and chalk powder.

(d) Four substances that can be used as filters

Ans: (i) filter paper (ii) A bead of sand
(iii) charcoal (iv) A piece of muslin

(6) Give reasons

(a) Sand and saw dust cannot be separated by hand picking

Ans:

Because in hand picking method substances should be large enough in size to be recognized and picked out by hand but sand and saw dust particles are very small in size so they can't be picked by hand. It can be separated by filtration.

(b)

Ans: - Mixtures of iron and sulphur can be separated by moving a magnet over them. Iron gets attached to the magnet and sulphur is separating.

Q 10.

Q 10. Water from a river, pond or lake contains very fine clay particles. To make them settle at a faster rate, a chemical substance called alum in powdered form is added to such mixtures. It dissolves in water and forms ~~small~~ clusters with clay and dust particles making them heavier and increasing the rate of sedimentation.