

Case study 1

There are many methods which can be used to separate the different components of a mixture. The method of separation depends upon the properties of the different components. For eg. sea water is an example of a mixture of salts with water whose components can be separated by evaporation. Evaporation is a method used to isolate a solid substance from its solution. On heating a solution in an open and broad container the solvent evaporates and the solute is left behind.

1. The rate of evaporation of a liquid increases with
 - (a) increase in temperature
 - (b) decrease in temperature
 - (c) keeping the liquid in dark
 - (d) pouring the liquid on a filter paper.
2. For obtaining salt from sea water,
 - (a) water is heated in big containers
 - (b) water is boiled in boilers
 - (c) collected water is evaporated in shallow pits.
 - (d) water is evaporated in beakers.
3. Two liquids are observed, P is more dense than Q and P is soluble in water but Q is not. These two liquids P and Q are mixed together. The correct method to separate these components is
 - a. Evaporation
 - b. Handpicking
 - c. Separating funnel
 - d. Sieving
4. The process of separation which is dependent on the difference in particle size is/are ____
 - a. Filtration
 - b. Sedimentation and decantation
 - c. Sieving
 - d. both a and c

Case study 2

After preparing tea, we need to remove the tea leaves. This is done by the help of a strainer. To remove any insoluble component from a mixture of insoluble solids and a liquid, a filter can be used. Various substances like filter paper, sand, cotton, charcoal, thin cloth etc., can be used as filters.

5. Paneer or cottage cheese is separated from liquid by using
 - (a) a cotton cloth
 - (b) charcoal
 - (c) alum
 - (d) sieve
6. Which of the following cannot be separated by filtration?
 - (a) water from milk

- (b) Mud and water
- (c) Sand and water
- (d) Salt and water

7. Filtration using a filter paper can be used to

- (d) Sawdust and water
- (b) water from kerosene oil
- (c) water from sugar solution
- (d) water from muddy water.

Q8. Draw the diagram of the filtration process. (2)

Q9. A- conductor allows heat and electricity to pass through it.

R- copper is a conductor. (1)

- a) A✓R✓E✓
- b) A✓R✓E✗
- c) A✓R✗
- d) A✗R✓