SCIENCE STD. VI

## SEPARATION OF MIXTURES

Q1. What is a mixture?

A1. A mixture is formed wgen two or more components physically mix together.

\*Their composition is not fixed.

\*They can be separated through physical processes.

\* The constituents retain their individual properties.

Eg. Bhel puri , Lemonade.

Q2.What are homogeneous and heterogeneous mixtures?

A2. A homogeneous mixture is one in which one components is uniformly distributed in the other and cannot be seen separately.

Eg. Coca cola, Lemonade.

In a heterogeneous mixture the constituents are not uniformly distributed and can be easily seen.

Eg. Sand in water.

Soil in water.

Q3. Give examples of solid -liquid mixtures that are homogeneous and heterogeneous.

A3.\*Solid -liquid mixture that is homogeneous

SUGAR IN WATER

\*Solid -liquidmixture that is heterogeneous

CHALK POWDER IN WATER.

Q4.What are alloys? Give examples.

A4. Alloys are mixtures of two or more elements of which atleast one is a metal.

Eg. BRASS is an alloy of Copper and zinc.

Q5.What is winnowing?

A5 A method of separating lighter particles from heavier ones by shaking them in a winnower.

The grains are heavier so they fall down vertically while the lighter chaff gets blown away.

Q6.How is cream separated from milk?

A6. Its separated by centrifugation or Churning.

Q7.What is saturated solution?

A7. A solution that has dissolved all the solute that it could and cannot dissolve any more solute at the given temperature, is called a saturated solution.

Q8. What do you mean by immiscible liquids. How can they be separated?

A8 . Mustard oil and water are immiscible liquids.

They can be separated by using A SEPARATING FUNNEL.

Q9. How would you separate a mixture of Iron fillings and sand?

A9. Iron fillings are attracted to the magnet while sand isn't.

So we would separate them through MAGNETIC SEPARATION.

\* We would heap the mixture on a conveyor belt which has a magnetic core.

\* The sand will fall vertically under the force of gravity.

\* The iron fillings will continue to be remain attracted to the magnet and would fall off when they cannot feel the magnetic force.

Q10. How would you prepare crystals of sugar?

A10. We can prepare sugar crystals from a sugar solution by EVAPORATION AND RECRYSTALLISATION.

\* A sugar solution is left in a petridish in the sun.

\* The water evaporates.

\* The sugar crystals are left behind.

Q11.How is common salt obtained from sea water?

A.11. We can obtain salt from sea water through the process of EVAPORATION AND RECRYSTALLISATION.

\*The sea water is collected in shallow ditches on the sea shore.

\* The heat of the sun evaporates the water and salt is left behind.

\*The salt is purified and iodised.

Q12. What do you mean by distillation? Explain how will you separate a mixture of water and alcohol through this process.

A12. \*Distillation is separation of two miscible liquids.

\* Their boiling points should atleast be 10 degrees apart.

\* The mixture is heated in a conical flask with a delivery tube.

\* At 78 degree celsius , Alcohol begins to boil and passes through the delivery tube surrounded by the condenser.

\* It condenses and is collected separately.

Q13. How would you separate a mixture of salt and sand?

A13. \*We can separate the two by the following way:

\* Dissolve the mixture in water.

- \* Salt will dissolve but sand would not.
- \* So now filter it.Sand would be filtered while salt solution would be the filtrate.
- \* Now pour the salt solution in a petridish and put it in the sun.
- \* The water would evaporate and salt would be left behind.

DO IT YOURSELF.

HOW WILL YOU SEPARATE THESE :

\* SALT FROM SULPHUR POWDER

- \* PETROL FROM DIESEL
- \* R.B.C. FROM BLOOD

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