CLASS IX SCIENCE ASSIGNMENT
CHAPTER: IS MATTER AROUND US PURE

Q.1 Two liquids 'A' and 'B' are miscible with each other at room temperature. Which separation technique will you apply to separate the mixture of 'A' and 'B' if the difference in their boiling point is 27 deg C?

Q.2 Rain water stored in a tank contains sand grains, unfiltrable clay particles, calcium carbonate, salt, pieces of paper and some air bubbles. Select from amongst these one example each of a solvent, a solute, a colloid and a suspension.

Q.3 Suggest separation technique(s) one would need to employ to separate the following mixtures:

(a) Mercury and Water
(b) Potassium Chloride and ammonium chloride
(c) Common salt, water and sand
(d) Kerosene oil, water and salt

Q.4 Give some examples of Tyndall effect observed in your surrounding

Q5: differentiate between:
(a) true solution & a colloid
(b) metals & non-metals
(c) compound & mixtures
(d) physical & chemical changes.

Q.6: 0.5 g of salt is dissolved in 25g of water. Calculate the percentage amount of the salt in the solution.

Q.7: During an experiment the students were asked to prepare a 10% (Mass/Mass) solution of sugar in water. Ramesh dissolved 10g of sugar in 100g of water while Sarika prepared it by dissolving 10g of sugar in water to make 100g of the solution.
(a) Are the two solutions of the same concentration?

(b) Compare the mass% of the two solutions.

Q.8: Explain why filter paper cannot be used to separate colloids?

Q.9: A compound is regarded as a pure substance while the mixture is not. Assign reason.

Q.10: How can a saturated solution be made unsaturated ?

Q.11: Colloidal solutions show Tyndall effect but true solutions do not. Discuss.

Q.12: The melting point of a solid when determined experimentally comes out to be 160 deg C. But its actual melting point as given in standard books is 150 deg C. Predict the nature of the solid.

Q.13: Can a mixture of alcohol and water be separated with the help of a separating funnel?

Q.14Identify the following as homogeneous & heterogeneous mixtures:

(a) Carbon dioxide gas dissolved in water.
(b) Air containing suspended particles.
(c) Soap bubbles formed by blowing air into soap solution.

Q.15 Two miscible liquids A and B are present in a solution. The boiling point of A is 60 deg C while that of B is 90 deg C. Suggest a method to separate them.

Q.16: Classify the following as physical and chemical changes. Give reason for your answer.

(a) Burning of Candle
(b) Melting of Ice
(c) Burning of petrol in an engine
(d) Change of colour of iron bar on strong heating
(e) Churning of milk to get butter

Q. 17: You are provided with a mixture containing iron filings, ammonium chloride , sand and sodium chloride. Describe the procedure that you would use to separate the constituents from the mixture.

Q. 18: A house wife churned full cream with a milk churner

(i) What did she observe after churning the milk?
(ii) What could be the possible reason for the observation?

Q. 19: The table given below shows number of grams of five different solids dissolving in 100 g of the solvents : water, alcohol and chloroform (all at 20 deg C).

Solvent	**Salt**	**Sugar**	**Iodine**	**Chalk**	**Urea**
Water	36.0	204.0	0.6	0.0	100.0
Alcohol	0.0	0.0	20.0	0.0	16.0
Chloroform	0.0	0.0	3.0	0.0	0.0

(a) Which solid dissolves best in water at 20 deg C?
(b) Which solid is most soluble in alcohol ?

(c) Which solid is insoluble in all three solvents ?

Q20: How can we obtain pure copper sulphate from an impure sample?

Q21: Show with the help of flow chart the process of obtaining gases from air.

Q22: Explain the water purification system in water works.