

Chapter 4 - Properties of Matter

① The fourth state of matter is _____.

- (a) gas (b) liquid (c) plasma (d) solid.

→ ans (c) plasma.

② Some substances, when heated, change directly into gas without forming liquid. This phenomenon is _____

- (a) solidification (b) condensation
- (c) liquification (d) sublimation

→ (d) Sublimation.

③ material made of particles of identical nature are called _____

- (a) mixture (b) pure substance (c) impure substance

→ ans (b) pure substance

④ The substances made of particles of different nature are called _____

- (a) mixture (b) diffusion (c) pure substance

→ ans (a) mixture.

⑤ when one component of the mixture is volatile & the other do not vapourise under the same condition, they can be separated by _____

- (a) Diffusion (b) distillation (c) sublimation (d) condensat

→ (b) distillation.

⑥ In order to separate insoluble particles in a liquid mixture on the basis of their mass difference. The process is know as _____

- (a) centrifugation (b) distillation
- (c) sublimation (d) condensation.

→ (a) centrifugation.

8 — is variety of rabbit.

④ Njodiyam ③ melifera

⑤ white giant ⑥ Durian

→ ans ⑥ white giant

9 what is precision farming?
→ In this method of farming the natural soil quantity of elements in the soil, pH of value of soil, presence of water etc. in the crop field are tested using modern technology, & appropriate crops are selected for cultivation.

10 How can plant grow without soil?

→ There is two method of cultivation Aeroponic & hydroponics.

In hydroponics, plants are grown in nutrient solution.

In aeroponics, plants are grown in such a way that their roots grow into air & nutrients are sprayed directly on roots.

⑦ Define chromatography?

→ Chromatography is the method used to separate more than one solute dissolved in the same solvent. This method was first employed for separating coloured substances & hence this process came to know as chromatography.

⑧ Explain the process of sublimation?

→ Take naphthalene, camphor and ammonium chloride in separate test tube. Heat them & observe. Do they melt into liquid? The process in which a solid, when heated, changes directly into gas without melting into liquid is called sublimation. This method can be used to separate the components which have the property of sublimation from the mixture.

⑨ Explain the process of fractional distillation?

If the boiling points of components have very small differences, fractional distillation is to be used to separate them.

Ethanol & methanol are two miscible liquids. There is only a small difference in their boiling points. These two liquids are separated from their mixture by fractional distillation.

- when vapours of the mixture pass through the fractionating column, repeated liquefaction & vapourisation take place.

Subsequently, the vapour of low boiling methanol enter the condenser from the fractionating column, condense to liquid & get collected in the round bottomed flask first. Similarly, ethanol with higher boiling point can be collected later in another round bottomed flask.

⑩ what is fractional distillation of crude oil?
→ crude oil which drilled out from the depth of earth is a mixture of hydrocarbons which do not have much difference in boiling point from this diesel, petrol, kerosene, naphtha etc. are separated by fractional distillation.

⑪ what is Adsorption on the basis of chromatography?
→ The solute particles moves along with the solvent which rise through the micropores in the filter paper. Due to the attraction between the filter paper & solute particles they get attached to the surface of the filter paper this is called Adsorption.