Solution 51
The mixture of water, groundnut oil and common salt is put in a separating funnel and allowed to stand for sometime. The mixture separates into two layers according to the densities of water and groundnut oil. Water is heavier than groundnut oil. So, water forms lower layer while groundnut oil forms upper layer. On opening the stop clock of separating funnel, the lower layer of water comes out first and collected in beaker leaving behind groundnut oil in the funel. Now, solution of water and common salt is heated. Water gets evaporated leaving behind solid common salt.
Solution 52
Mixture of chalk powder,iron filings and naphthalene can be separated by using magnet and then by sublimation. A horse-shoe magnet is moved on the surface of the mixture.The iron filings are attracted by the magnet, they cling to the poles of the magnet and get separated. This process is repeated a number of times till complete separation of iron filings occur leaving behind mixture of chalk powder and naphthalene. Then, mixture of chalk powder and naphthalene is heated.Naphthalene sublimes on heating leaving behind chalk powder and can be recovered in the form of sublimate by cooling its vapours.
Solution 53
Mixture of iodine, iron filings and salt can be separated by using magnet and then by sublimation. A horse-shoe magnet is moved on the surface of the mixture.The iron filings are attracted by the magnet, they cling to the poles of the magnet and get separated. This process is repeated a number of times till complete separation of iron filings occur leaving behind mixture of iodine and salt. Then, mixture of iodine and salt is heated. Iodine sublimes on heating leaving behind salt and can be recovered in the form of sublimate by cooling its vapours.
Solution 54
Mixture of iron filings,chalk powder and common salt can be separated by using magnet first.A horse-shoe magnet is moved on the surface of the mixture.The iron filings are attracted by the magnet,they cling to the poles of the magnet and get separated. This process is repeated a number of times till complete separation of iron filings occur leaving behind mixture of chalk powder and common salt.The mixture of chalk powder and common salt is then dissolved in water and then filtered with the help of filter paper. Chalk powder remains as residue on the filter paper while common salt solution is obtained as filtrate .The filtrate is then evaporated to get crystals of common salt.
Solution 55
Mixture of common salt, sand and iron filings can be separated by using magnet first. A horse-shoe magnet is moved on the surface of the mixture. The iron filings are attracted by the magnet, they cling to the poles of the magnet and get separated. This process is repeated a number of times till complete separation of iron filings occur leaving behind mixture of common salt and sand.The mixture of common salt and sand is then dissolved in water and then filtered with the help of filter paper. Sand remains as residue on the filter paper while common salt solution is obtained as filtrate .The filtrate is then evaporated to get crystals of common salt.
Solution 56

The mixture of water and kerosene is put in separating funnel and allowed to stand for sometime. The mixture separates into two layers according to the densities of water and kerosene. Water is heavier than kerosene.So, water forms lower layer while kerosene forms upper layer. On opening the stop clock of separating funnel, the lower layer of water comes out first and collected in beaker leaving behind kerosene.

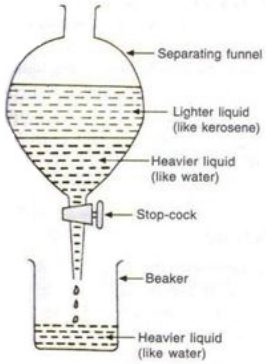

Fig. Separation of kerosene oil and water mixture by separating funnel

Solution 57

The mixture of mustard oil and water is put in separating funnel and allowed to stand for sometime.The mixture separates into two layers according to the densities of water and mustard oil. Water is heavier than mustard oil. So,water forms lower layer while mustard oil forms upper layer. On opening the stop clock of separating funnel, the lower layer of water comes out first and collected in beaker leaving behind mustard oil.

Solution 58

The mixture of cooking oil(groundnut oil) and water is put in separating funnel and allowed to stand for sometime.The mixture separates into two layers according to the densities of water and groundnut oil. Water is heavier than groundnut oil. So,water forms lower layer while groundnut oil forms upper layer. On opening the stop clock of separating funnel,the lower layer of water comes out first and collected in beaker leaving behind groundnut oil.

Solution 59

Mercury, oil and water are immiscible liquids and have different densities. Mixture of mercury, oil and water will be put in separating funnel and allowed to stand for sometimes. The mixture separates into three layers according to the densities of mercury, oil and water. On opening the stop clock of separating funnel, the lower layer formed by mercury comes out first and collected in beaker leaving behind other two layers. Similarly, again on opening the stop clock of separating funnel, the lower layer of water comes out first and collected in beaker leaving behind oil in the funnel.

Solution 60

Sulphur is soluble in carbon disulphide whereas iron filing is insoluble in carbon disulphide.The mixture of sulphur and iron filing is shaken with carbon disulphide.Sulphur dissolves in carbon disulphide whereas iron filings remain undissolved. The solution is then filtered, iron filing is obtained as residue.On evaporating the filtrate, carbon disulphide solvent is eliminated and solid sulphur remains behind.

Solution 61

Centrifugation is used to separate cream from milk.Milk is a suspension of tiny droplets of oil in a watery liquid.It is put in closed container in a big centrifuge machine.When machine is switched on,milk is rotated at very high speed in its container.The cream being lighter floats over the skimmed milk and then can be removed.

Solution 62

Impure copper sulphate is dissolved in minimum amount of water in a china dish to make copper sulphate solution. It is then filtered to

remove insoluble impurities. Now, copper sulphate solution is heated gently on a water bath to evaporate water and a saturated solution is obtained. Then heating is stopped and saturated solution of copper sulphate is allowed to cool slowly. Crystals of pure copper sulphate will be formed leaving behind impurities. These crystals are then separated and dried.

Solution 63

Crystallisation is better method for recovering sugar from sugar solution than evaporation because-

(a) Sugar decomposes or get charred on heating to dryness during evaporation.There is no such problem in crystallization.

(b) The soluble impurities do not get removed in the process of evaporation. But such impurities get removed in crystallization.

Solution 64

Chromatography is a technique of separating two or more dissolved solids which are present in a solution in very small quantities.Its two applications are-

(a) Chromatography is used to separate solutions of coloured substances(dyes and pigments).

(b) Chromatography is used to separate small amounts of products of chemical reactions.

Solution 65

(a) Water and kerosene mixture can be separated by using a separating funnel because these are immiscible liquids and they have different densities.

(b) Water and acetone mixture can not be separated by by using a separating funnel because these are miscible liquids.

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