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(a) Fractional distillation
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Solution 33
Sugar is soluble in water whereas sand is insoluble in water. The difference in their solubility is used to separate them. The mixture of sand and sugar is dissolved in water, then it is filtered with the help of filter paper. Sand remains as residue on the filter paper while sugar solution is obtained as filtrate.The filtrate is then evaporated to get crystals of sugar.
Solution 34
The difference in the solubility of salt and sand in water is used to separate them from their mixture.
Solution 35
Salt is soluble in water whereas sand is insoluble in water. The difference in their solubility is used to separate them. The mixture of sand and salt is dissolved in water, then it is filtered with the help of filter paper. Sand remains as residue on the filter paper while salt solution is obtained as filtrate .The filtrate is then evaporated to get crystals of salt.
Solution 36
Sugar is soluble in alcohol but salt is insoluble in alcohol, so a mixture of sugar and salt can be separated by using alcohol as solvent.
Solution 37
Sodium chloride is soluble in water whereas sand is insoluble in water. The difference in their solubility is used to separate them. The mixture of sand and sodium chloride is dissolved in water, then it is filtered with the help of filter paper. Sand remains as residue on the filter paper while sodium chloride solution is obtained as filtrate .The filtrate is then evaporated to get crystals of sodium chloride.
Solution 38
Potash alum is soluble in water whereas sand is insoluble in water. The difference in their solubility is used to separate them. The mixture of sand and potash alum is dissolved in water, then it is filtered with the help of filter paper. Sand remains as residue on the filter paper while potash alum solution is obtained as filtrate .The filtrate is then evaporated to get crystals of potash alum.
Solution 39
Sulphur is soluble in carbon disulphide whereas sodium chloride is insoluble in carbon disulphide.The mixture of sulphur and sodium chloride is shaken with carbon disulphide.Sulphur dissolves in carbon disulphide whereas sodium chloride remains undissolved. The solution is then filtered,sodium chloride is obtained as residue.On evaporating the filtrate ,carbon disulphide solvent is

eliminated and solid sulphur remains behind.
Solution 40
Mixture of iodine and common salt is heated. Iodine sublimes on heating leaving behind common salt and can be recovered in the form of sublimate by cooling its vapours.
Solution 41
Mixture of camphor and sand is heated. Camphor sublimes on heating leaving behind sand and can be recovered in the form of sublimate by cooling its vapours.
Solution 42
Mixture of iron filings and powdered carbon can be separated by using magnet.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 is done.
Solution 43
Mixture of iron filings and powdered carbon can be separated by using magnet.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 is done.
Solution 44
In factories, scrap iron is separated from the heap of waste materials by using big electromagnets fitted to a crane.When a crane fitted with a powerful electromagnet is lowered on to the heap of waste materials, then the scrap iron objects present in the heap cling to the electromagnet. The crane is then moved up and away to drop these scrap iron objects at a separate place.
Solution 45
In industries, the impurity of iron present in several substances is removed by the use of magnets. Iron objects stick to the magnet leaving behind other objects.
Solution 46
Mixture of iron pins and sand can be separated by using magnet.A horse-shoe magnet is moved on the surface of the mixture.The iron pins 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 pins is achieved.
Solution 47
At first, the mixture of common salt, sulphur powder and sand is shaken with carbon disulphide. Sulphur dissolves in carbon disulphide whereas common salt and sand remain undissolved. The solution is then filtered, common salt and sand mixture is obtained as residue. On evaporating the filtrate, carbon disulphide solvent is eliminated and solid sulphur remains behind. Now, the common salt and sand mixture is shaken with water. Common salt gets dissolved in water .The solution is then filtered, sand is obtained as residue. The filtrate is then evaporated to get crystals of common salt.
Solution 48
The mixture of water, kerosene and sand is filtered with the help of filter paper first. Sand remains as residue on the filter paper while mixture of water and kerosene is obtained as filtrate .The mixture of water and kerosene is then put in separating funnel and allowed to stand for sometime. The mixture separates into two layers according to the difference in 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 in the separating funnel.
Solution 49
The mixture of common salt,sand and ammonium chloride will be heated first.Ammonium chloride sublimes on heating and can be

recovered in the form of sublimate by cooling its vapours leaving behind mixture of common salt and sand.Salt is soluble in water whereas sand is insoluble in water.The mixture of sand and salt is dissolved in water, then it is filtered with the help of filter paper. Sand remains as residue on the filter paper while salt solution is obtained as filtrate .The filtrate is then evaporated to get crystals of salt.

Solution 50

A horse-shoe magnet is moved on the surface of the mixture of camphor,common salt and iron nails.The iron nails 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 nails occur leaving behind mixture of camphor and common salt. Mixture of camphor and common salt is heated. Camphor sublimes on heating leaving behind common salt and can be recovered in the form of sublimate by cooling its vapours

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