

Revision Question Bank

1. Name the gas which forms the liquid first when air is cooled.
2. Which method is used to separate iron pieces from the engine oil.
3. Explain the term 'pure substance'.
4. Give an example when physical and chemical change occur simultaneously.
5. Name the element (one metal and one non-metal) which is liquid at room temperature.
6. (a) How do we test purity of substance ?
(b) What is meant by homogeneous mixture ?
(c) What is meant by saturated solution ?
(d) What is solute and solvent in brass?
7. How would you differentiate between homogeneous and heterogeneous mixtures giving examples.
8. Explain the method used to separate butter from curd.
9. How will you separate a mixture of carbon tetrachloride and water ? Explain the principle of this method.
10. State whether the following changes are physical or chemical:
(i) Melting of glaciers (ii) Cooking of food
(iii) Burning of paper (iv) Pulverising a crocin tablet
11. Calculate the amount of glucose required to prepare 250 g of 5% solution of glucose by mass.
12. 10ml of H_2SO_4 is dissolved in 90 ml of water. Calculate mass by volume percentage of solution.
13. To make a saturated solution, 36 g of sodium chloride is dissolved in 100 g of water at 293K. Find its concentration at this temperature.
14. A solution contains 26 g of KNO_3 and 540 g of water. Calculate the concentration of mass by mass percentage of the solution.
15. Water is a compound not an element. Why?
16. What is chromatography? How will you separate red and blue ink using chromatography? Explain.
17. With the help of labeled diagram and the principle, explain the separation of two miscible liquids.
18. Write a short note on the following methods for the separation of the components of a mixture :
(i) Sedimentation (ii) Filtration (iii) Tyndall effect
19. How will you differentiate between sol, colloid and solution?

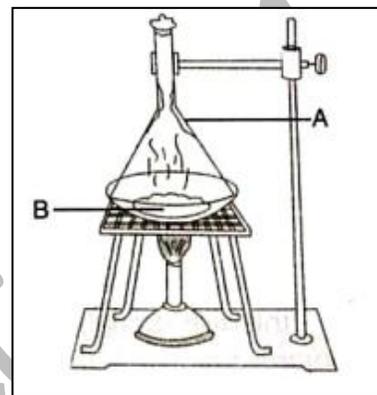
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MCQ's [Practical Based Questions]

1. A mixture of common salt and sand can be separated by :
- filtration
 - sedimentation and filtration
 - sedimentation and decantation
 - sedimentation, filtration and crystallisation.

2. The parts labelled A and B indicates:

- A → Ammonium chloride vapours
B → Sodium chloride
- A → Solidified ammonium chloride
B → Mixture of sodium chloride and ammonium chloride
- A → Sodium chloride
B → Solidified ammonium chloride
- A → Sodium chloride vapours
B → Ammonium chloride vapours.



3. Which method you will use to separate the coloured material from flower petals ?

- centrifugation method
- chromatography method
- distillation method
- filtration method.

4. When a mixture of sand, copper sulphate, ammonium chloride is dissolved in water and then filtered, what will be present in the filtrate ?

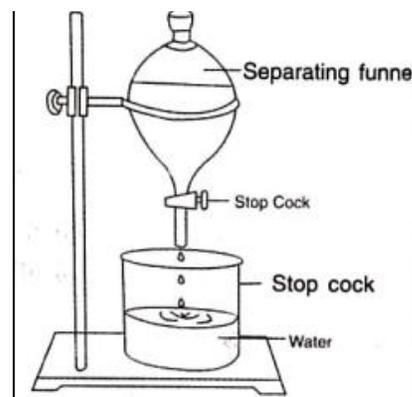
- ammonium chloride and chalk
- copper sulphate and chalk
- ammonium chloride and copper sulphate
- copper sulphate and sand.

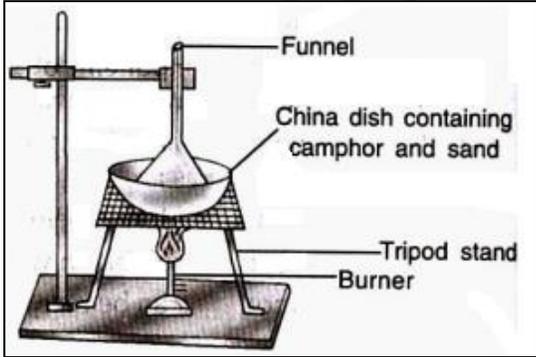
5. When a mixture of sand, chalk and sodium chloride is dissolved in water and then filtered, what will be left on the filter paper and what is it called ?

- sodium chloride ; filtrate
- chalk ; distillate
- chalk and sand ; filtrate
- chalk and sand ; residue.

6. The apparatus shown in the figure is used for:

- separating two miscible liquids.
- separating two immiscible liquids.
- separating coloured component (dye) from ink.
- separating cream from milk.



7. Which of the following cannot be separated by the method of sublimation ?
 (a) sodium chloride (b) ammonium chloride (c) camphor (d) iodine
8. A china dish containing a mixture of ammonium chloride; common salt and fine sand, is covered with an inverted glass funnel having a cotton plug at its tube end. A student heats this dish strongly. He would observe that on the inner sides of the funnel gets condensed:
 (a) a greenish yellow gas (b) a colourless gas
 (c) dense white fumes (d) colourless fumes
9. The set-up given alongside is used in the separation of camphor from a mixture of camphor and sand.
 The item missing in this set-up is :
 (a) thermometer
 (b) cotton plug
 (c) two holed cork
 (d) one holed cork.
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10. A student takes a mixture of sand and ammonium chloride in a china dish and heats it under a funnel fitted with a plug over a flame. He would observe that:
 (a) solid sand gets deposited on the lower cooler parts of the funnel while solid ammonium chloride remains in the china dish.
 (b) sand and ammonium chloride get deposited on hotter parts of the funnel.
 (c) ammonium chloride gets deposited on the cooler parts of the funnel and sand remains in the china dish.
 (d) sand collects on cooler parts of the funnel while ammonium chloride melts in the china dish.

Answers

1.	d	2.	b	3.	b	4.	c	5.	d
6.	b	7.	a	8.	c	9.	b	10.	c

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Previous Year Questions

1. Explain the technique used to separate two miscible liquids with a boiling point difference of about 25 K or less. Name the apparatus that does it efficiently. Draw a labelled diagram to explain this technique.
[CBSE Schools 2016-17]
2. Is milk a homogeneous or a heterogeneous mixture? Will it show Tyndall effect? Give reason.
[CBSE Schools 2016-17]
3. (a) Crystallisation is a better technique than simple evaporation technique. Justify this statement by giving two reasons.
(b) Mention any two applications of chromatography.
[CBSE Schools 2016-17]
4. A student was given the mixture of Iron filings and sulphur. He was told to heat it and observe the following -
(a) What is the colour of the compound formed? (b) Write the effect of magnet on it.
(c) Write the action of carbon disulphide on it.
(d) Describe the effect of adding dilute hydrochloric acid to it. Identify the gas and write its two properties.
[CBSE Schools 2016-17]
5. Air is considered a mixture and not a compound. Explain.
[CBSE Schools 2016,17]
6. What is meant by a true solution? Write its any two properties and two examples.
[CBSE Schools 2016-17]
7. Rohila took 5 g of iron filings and 3g of sulphur powder in a china dish and then heated them strongly. On the basis of the information given explain what is meant by a physical change, a chemical change, a mixture and a compound?
[CBSE Schools 2016-17]
8. How will you separate a mixture of common salt camphor and Iron filings. Describe the process.
[CBSE Schools 2016-17]
9. What do you mean by crystallization? How can we get pure copper sulphate from impure sample by this process?
[CBSE Schools 2016-17]
10. Explain what is a mixture? Name the two types of mixtures. List two points of difference between them. How would you confirm that a colourless liquid given to you is pure water?
[CBSE Schools 2016-17]
11. What do the following observations about matter demonstrate about its physical nature?
(i) When we dissolve sugar in water the water level does not rise.
(ii) The smell of dettol can be detected even on repeated dilution.
[CBSE Schools 2016-17]
12. While diluting the aqueous solution of salt, a student by mistake added ethanol (Boiling point – 78°C). Which technique can be used to recover it? Explain.
[CBSE Schools 2016-17]

13. Define the term - solution. Identify the solute and solvent in the following solutions -
- (i) Tincture of iodine (ii) Polluted air
(iii) soda water (iv) Dilute Hydrochloric acid [CBSE Schools 2016-17]
14. Name the technique to separate the following: [CBSE Schools 2016-17]
- (i) Two immiscible liquids (ii) Two miscible liquids
(iii) Two or more solutes dissolved in the same solvent (iv) Naphthalene from common salt
(v) Components of air (vi) To squeeze out water from wet clothes in washing machine.
15. (a) If 110 g of salt is present in 550 g of solution, then calculate the concentration of the solution.
(b) Explain the terms unsaturated solution, saturated solution and solubility [CBSE Schools 2016-17]
16. (a) What are heterogeneous mixtures? [CBSE Schools 2016-17]
(b) Why mixture does not have a fixed melting or a fixed boiling point? Give two reasons.
17. A teacher told three students A, B and C to prepare 25% solution (mass by volume) of KOH. Student A dissolved 25g of KOH in 100g of water, student B dissolved 25g of KOH in 100 ml of water and student C dissolved 25g KOH in water and made the volume 100 ml. Which one of them has made required 25% solution? Give your answer with reason. [CBSE Schools 2016-17]
18. Rohila took 5 g of iron filings and 3 g of sulphur powder in a china dish and then heated them strongly. On the basis of the information given explain what is meant by a physical change, a chemical change, a mixture and a compound? [CBSE Schools 2016-17]
19. What is Tyndall Effect? Name two mixtures which show this defect. [CBSE Schools 2015-16]
20. Compare suspension and colloidal solution on the basis of
(a) Type of mixture (b) particle size (c) Scattering of light (d) density [CBSE Schools 2015-16]
21. Differentiate between an element and a compound. Categorize the following substances into elements and compounds:
Sodium Chloride, iodine, water, 24 carat gold, oxygen gas, carbon. [CBSE Schools 2015-16]
22. Why is crystallization better than evaporation for the separation of mixtures? [CBSE Schools 2015,16]
23. What is meant by a pure substance? [CBSE Schools 2014-15]
24. Define solute and solvent. Is it possible to separate them? [CBSE Schools 2014-15]
25. (a) Tabulate the difference between suspension and true solution with respect to
(i) Filtration (ii) Transparency (iii) Stability [CBSE Schools 2014-15]
26. (a) Outline a scheme to separate the constituents of mixture containing Iron fillings, common salt and sand. [CBSE Schools 2014-15]
(b) Write any two applications of crystallisation.
27. Draw a well labelled apparatus for the process of sublimation. [CBSE Schools 2014-15]

28. How does the solution of sugar in water different from a solution of starch in water with respect to :
(i) Tyndall effect (ii) Filterability (iii) Stability [CBSE Schools 2014-15]
29. (a) Write two uses of centrifugation technique. [CBSE Schools 2014-15]
(b) Which separation technique will you use for the separation of the following mixture :
(i) Cream from milk (ii) Iodine from a mixture of iodine and sand
(iii) Salt from sea water (iv) Iron pins from sand
30. State the principles used to separate two immiscible liquids of a mixture. Draw a neat and labelled diagram of the apparatus used. [CBSE Schools 2014-15]
31. (a) Illustrate with an example that physical and chemical changes can takes place together.
(b) Which of the following are chemical changes : [CBSE Schools 2014-15]
(i) Mixing of Iron filings and sand (ii) Growth of plant (iii) Rusting of Iron (iv) Freezing of water
32. (a) Write any two differences between homogenous and heterogeneous mixtures.
(b) Identify homogeneous and heterogeneous mixtures among the following – Air, salt solution, kerosene in water, muddy water, soil, soda water. [CBSE Schools 2014-15]
33. (a) How can we say that sugar is a pure substance whereas milk is not. [CBSE Schools 2014-15]
(b) Which of the following materials fall in the category of a pure substance?
(i) Ice (ii) Iron (iii) Wood (iv) Brick
34. A student was given the mixture of Iron filing and sulphur. He was told to heat it and observe the following - [CBSE Schools 2014-15]
(a) What is the colour of the compound formed? (b) Write the effect of magnet on it.
(c) Write the action of carbon disulphide on it.
(d) Describe the effect of adding dilute hydrochloric acid to it.
Identify the gas and write its two properties
35. Explain the technique to separate two miscible liquids with a boiling point difference of about 25 K or less. Name the apparatus that makes it efficient. Draw a labelled diagram to explain this technique. [CBSE Schools 2014-15]
36. State the separation technique used for the separation of the following : [CBSE Schools 2014-15]
(a) Ammonium chloride from a mixture containing sodium chloride and ammonium chloride.
(b) Copper sulphate from its solution in water.
37. (a) Name the compound formed on heating a mixture of Iron filing and sulphur.
(b) If dilute HCl is added to above compound then name the gas evolved and write down its two properties. [CBSE Schools 2014-15]
38. How colloids are different from suspensions ? Identify the colloids from the following:
Soda water, milk sponge, clouds, mixture of alcohol and water, Jelly. [CBSE Schools 2014-15]

Chapter Test

Maximum Marks: 30

Maximum Time: 1 hr.

1. Name two compounds which sublime on heating. [1]
2. You are provided with a mixture of carbon tetrachloride and water. How will you separate the constituents? [1]
3. Give one example of (a) solution of a gas in a liquid (b) solution of number of gases. [1]
4. What is dispersed phase and dispersion medium in a colloid? [1]
5. What happens when a saturated solution of sodium chloride prepared at 60°C is allowed to cool at room temperature? [1]
6. Can a mixture of alcohol and water be separated with the help of a separating funnel? [2]
7. Sodium chloride contains two elements, but it is still a pure substance. Assign reason. [2]
8. What types of mixtures are represented by the following? [2]
 - (a) Carbon dioxide gas dissolved in water.
 - (b) Air containing suspended particles.
 - (c) Soap bubbles formed by blowing air into soap solution.
9. Two miscible liquids A and B are present in a solution. The boiling point of A is 60°C while that of B is 90°C . Suggest a method to separate them. [2]
10. Classify the following as homogeneous and heterogeneous mixtures : [2]
 - (a) Copper sulphate solution
 - (b) A suspension of chalk in water
 - (c) Dust storm
 - (d) A dilute solution of
11. Solubility of KNO_3 at 313 K is 62 g . What mass of KNO_3 would be needed to produce a saturated solution of KNO_3 in 50 g of water at 313 K ? [2]
12. (a) State one property in which a solution of sugar in water resembles a mixture of sugar and sand and one property in which it differs from it.
(b) You are given two liquids; one a solution and the other a compound. How will you distinguish the solution from the compound? [3]
13. What would you observe when :
 - (a) A saturated solution of potassium nitrate prepared at 60°C is allowed to cool to room temperature
 - (b) A mixture of iron filings and sulphur is heated strongly?
 - (c) A colloidal solution of starch is passed through an ordinary filter paper? [3]

14. The teacher instructed three students A, B and C respectively to prepare a 50% (mass by volume) solution of sodium hydroxide (NaOH). 'A' dissolved 50 g of NaOH in 100 mL of water. 'B' dissolved 50 g of NaOH 100 g of water. The student 'C' dissolved 50g of NaOH in water to make 100 mL of solution. Which of them has made the desired solution and why? [3]
15. Point out whether the following statements are true or false : [4]
- (i) Particles in a colloidal solution can always be seen by naked eyes.
 - (ii) Scattering of light occurs when a beam of liquid is passed through aqueous sugar solution.
 - (iii) Colloidal solutions are of heterogeneous nature.
 - (iv) Digestion of food is a chemical change.

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