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Questions:

5 Marks

1. Iron filings and sulphur were mixed together and divided into two parts, A and B. Part A was heated strongly while part B was not heated. Dilute hydrochloric acid was added to both the parts and evolution of gas was seen in both the cases. How will you identify the gases evolved?

4 Marks

2. List the various types of homogeneous and heterogeneous mixtures with examples.
3. Give the distinguishing feature of a pure substance or a compound and a mixture.

3 Marks

4. Define and explain the term: mixture.
5. How do you establish that air is a mixture and not a pure substance?
6. Define the following terms:
   (i) True solution
   (ii) Solute
   (iii) Solvent
   (iv) Solubility.
7. How do you express concentration of a solution?
8. 110 g of salt is present in 550 g of solution. Calculate the concentration of solution.
9. Solubility of potassium nitrate at 313 K is 62 g. What mass of potassium nitrate would be needed to produce a saturated solution of KNO_3 in 50 g of water at 313 K what is the effect of change of temperature on the solubility of a salt?

2 Marks

10. Sidak took 50 mL water in two beakers at room temperature and added sodium chloride to one beaker while sugar to the other, till no more solute would be dissolved. Then she heated the contents of the beakers and added more solutes in them.
    (a) Will the amount of salt and sugar that can be dissolved in water at given temperature same?
    (b) What will you expect to happen if she cools the contents of the beakers?justify your answer.
11. How much water should be mixed with 12 mL of alcohol so as to obtain 12 % of alcohol solution? calculate.
12. (a) A solution is prepared by dissolving 15 g sodium chloride in 200 g of H_2O What is the mass by mass percentage of NaCL in this solution?
    (b) What is solute and solvent in aerated drinks?
13. What is a suspension?
14. (a) What is the effect of temperature on the solubility of a solid in liquid?
    (b) Why is it possible to distinguish the particles of solute from those of solvent in a suspension?
15. A mixture is homogeneous and light is not visible on passing through it. State, what can you infer about the nature of the mixture and size of its particles?
16. Give reasons:
    (i) Path of beam of light is not visible through a solution.
    (ii) Particles of solution cannot be seen with a naked eye.

Multiple Choice Question

17. select a heterogeneous mixture of the following:
    (a) Air (b) NaCL in water (c) Emulsion (d) Alloy
18. Take the statement which is not correct:
    (a) When a beam of light is passed through a colloidal solution, the path of light gets illuminated.
    (b) When an electric current is passed through a colloidal solution, colloidal particles move towards the same charged electrodes.
    (c) When an electric current is passed through a colloidal solution, colloidal particles move towards the oppositely charged electrodes.
    (d) When an electric current is passed through an electrolyte solution, particles move towards the oppositely charged electrodes.
19. Fog, clouds are an example of_____
    (a) aerosol (b) colloid (c) suspension (d) emulsion
20. Sponge can be compressed, it is a_____
    (a) solid (b) liquid (c) gas (d) foam
21. An impure sample of potash alum can be purified by_____
    (a) evaporation (b) crystallisation (c) centrifugation (d) filtration