Chemistry

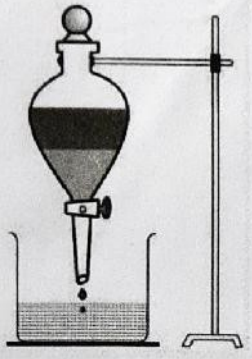
Time: 40 minute
Score : 20

Answer any FIVE questions from 1 to 6. Each question carries 1 score. **(5 x 1 = 5)**

1. Which of the following is the symbol of sodium? (1)
   (S, Na, N)
2. The constituent elements of sugar are carbon, hydrogen and _____. (1)
3. Which substance changes directly from solid to gas on heating without forming liquid? (1)
   (Sand, Salt, Camphor)
4. _____ are pure substances which cannot be split into simpler components by chemical process. (1)
   (Elements, Compounds, Mixtures)
5. When an incense stick is lit, the fragrance spreads quickly. This is due to _____
   (Sublimation, Diffusion, Distillation) (1)
6. One of the given elements is named after a country. Which element is this? (1)
   (Curium, Indium, Americium)

Answer any THREE questions from 7 to 10. Each question carries 2 scores. **(3 x 2 = 6)**

7. Choose the statements which are suitable for gases (2)
   i) Particles have less freedom of movement.
   ii) The distance between particles is very large
   iii) Particles remain very close to each other.
   iv) The energy of particles is very high.
8. Classify the given substances as pure substances and mixtures. (2)
   Gold, Sodawater, Soil, Ice
9. 'N' is the symbol of Nitrogen
   a) What does '2N' stand for? (1)
   b) What is the total number of atoms in $5N_2$? (1)
10. Examine the given picture.
    a) What is the name of this apparatus? (1)
    b) Fill one-fourth of this apparatus with kerosene and add equal amount of water and shake well. Keep it aside for few minutes and observe. Which liquid is seen at the bottom? Why? (1)



Answer any THREE questions from 11 to 14. Each question carries 3 scores. **(3 x 3 = 9)**

11. Many minerals are present in ordinary water.
    a) Which method can be used to remove the minerals and obtain pure water? (distillation, fractional distillation, chromatography) (1)
    b) What is the name of such purified water? (1)
    c) Write one use of this purified water. (1)

12. Classify the given molecules as monoatomic, diatomic and polyatomic
    H_2, P_4, Na, Cl_2, S_8, He (3)

13. A few mixtures are given in the table. Complete the table by selecting the appropriate method from the bracket for the separation of components. (3)
    (Sublimation, Distillation, Using magnet, Fractional distillation)

Mixture	Method
Sand and ammonium chloride	(a) .....
Iron powder and sand	(b) .....
Common salt solution	(c) .....

14. Some chemical equations are given
    i) $C + O_2 \rightarrow CO_2$
    ii) $CaCO_3 \rightarrow CaO + CO_2$
    iii) $N_2 + O_2 \rightarrow NO$
    a) Write the products and reactants in chemical equation (i). (1)
    b) Which of the above is an unbalanced chemical equation? (1)
    c) Balance the unbalanced equation. (1)