Part – 1

Answer all questions

Underline the most appropriate answer

1. Which one is the example for mixture?

    a. Fe powder   b. Pure water   c. Air   d. Sulfur

2. Features of the Heterogeneous mixture

    A. Components of mixture can be distinguished from one another

    B. Composition are similar throughout the mixture

    C. Density is different from place to place

    a. A , B   b. A ,C   c. B , C   d. A, B, C

3. Symbol of Ammonia aqueous solution

    a. N_2O b. NH_4OH c. NH_3 d. NH_3OH

4. 2 mol NH_3 soluble in 10 mol solution. Find the mole fraction of solute?

    a. 2/10   b. 10/2   c. 3/8   d. 2/12

5. Set of laboratory equipment required to prepare a standard solution

    a. Volumetric flask, Beaker, wash bottle

    b. Conical flask, Thistle funnel, watch glass

    c. Volumetric flask, wash bottle, watch glass

    d. Test tube, wash bottle, beaker

6. Select the correct method to dilute the concentrated acid

    a. Add water into acid

    b. Add acid into water

    c. Add water drop by drop into acid

    d. Add acid drop by drop into water

7. Select the correct statement about solute

    a. Component present excess in solution

    b. Component present less in solution

    c. Component present in equal amount in solution

    d. Component present in solid state in solution

8. Which factor not influence the solubility

    a. Temperature   b. Nature of solute   c. Nature of solvent   d. Catalyst

9. In which day to day activity the nature of mixture won't be taken into consideration

    a. $CuSO_4$ crystal production   b. Yoghurt production

    c. Colour dye production   d. production of drugs

10. When opening the soda bottle why gas release out?

    a. Evaporation of Soda Liquid   b. Gas present in bottle release

    c. CO_2 present in soda liquid release   d. Pressure inside soda bottle decrease

Answer the following statement right or wrong

1. Temperature and mass is essential to mention the solubility (   )
2. Separation of components in a mixture using the difference of their physical properties is known as mechanical separation (   )
3. During distillation process water pass from top to bottom of Liebig condenser(   )
4. Wash bottle is made up of glass (   )
5. Concentration will increase when the mole of solute increase in solution (   )

Part - 11 A. Structured Essay

1. A.
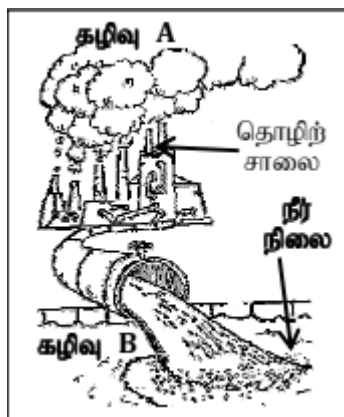
The picture show two major waste materials A and B removed from the factory. Waste B is a liquid used as a coolant.

1. Name the waste A and B with their physical state

                Waste   physical state

    Waste A -…………………………….   …………………………….

    Waste B -…………………………….   …………………………….

2. What type of mixture form when waste A mixed with air?

....

3. Waste B contain diesel and kerosene oil which were used as fuel. Which one has low boiling point?

....

4. A mixture contain diesel and kerosene oil. Suggest a separation technique to separate diesel.

....

5. In order to check any other toxic in volatile chemicals present along with the mixture of diesel and kerosene.

a. Mention the most suitable technique which can be used?

....

b. Name two materials needed to perform the above mention technique in laboratory

....

c. State the reason for choosing the above technique

....

B. Waste A dissolve with rain water and form the acidic solution. If the relative molecular mass of that acid is 62. Answer the following questions.

1. Mass of 0.01 mol acid - ....

2. Concentration of $10dm^3$ solution when 0.01 mol acid dissolve in water

....

3. State the change occur in solubility of waste A in water with temperature

....

C. 1. If waste B mix into the water reservoir. Mention one adverse effect to aquatic organisms

....

   2. Mention a suggestion to prevent the adverse effect you mention in above question

....

Part – 11.B Essay Questions

2. Common salt is extracted from marine water and citronella oil extracted from citronella grass.

A. 1. Write the chemical formula of common salt?

2. Calculate the mass of 1mol pure common salt.

3. Where common salt produce in industrial method?

4. How $CaCO_3$ precipitate in tank A?

5. Name two impurities present in common salt precipitate in tank C.

6. How these impurities are remove in salt turns?

7. In medical field saline is produce from common salt.

   a. Name the basic composition of Saline

   b. Suggest an appropriate separation technique to purify the common salt more to make saline.

B. 1. Which part of plant used to produce citronella oil?

2. Name two separation technique to produce citronella oil.

3. For one of the technique mention in question 2 solvent like ethanol can be used. Mention the function of these solvent.

4. Below statements explain how two students X and Y used the 500ml of ethanol for performing this Separation.

   X – Add plant extract into 500ml ethanol and shake it

   Y – Separate 500ml ethanol into 5 equal parts and add plant extracts 5 times into them and shake

   a. Which student procedure is more efficient?
   b. Explain the reason for more efficient.