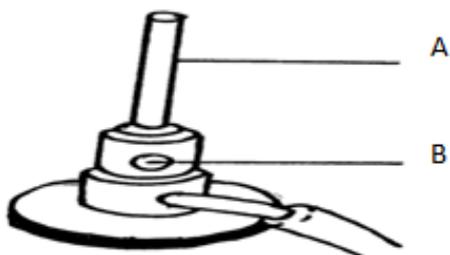
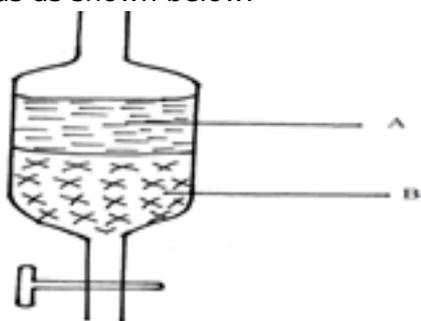


CHEMISTRY PAPER 1 - KCSE 2019 NYANDARUA PRE MOCK EXAMINATION

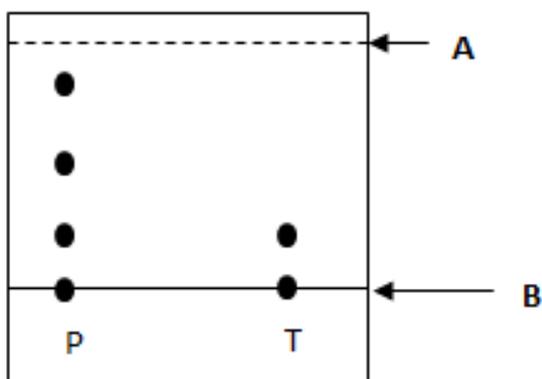
1. The diagram below shows a Bunsen burner which is used as a source of heat in the laboratory.



- a. Name the parts labeled: A and B (2 marks)
 - b. Explain how the hotness of a non-luminous flame can be increased. (1 mark)
2. In an experiment to separate a mixture of two immiscible liquids A and B, a form four student set the apparatus as shown below.



- a. Name the above apparatus. (1 mark)
 - b. Which liquid is denser? (1 mark)
 - c. Name one other method that can be used to separate the above mixture. (1 mark)
3. The following chromatogram shows the results obtained after separating substances P and T.



- a. Name lines; A and B (1 mark)
 - b. Name the possible solvent that can be used in the above process. (1 mark)
 - c. Which of the two substances is pure? (1 mark)
4. A form four student arranged the apparatus as shown below with the aim of collecting dry hydrogen gas

MARKING SCHEME

1.
 - a. A- Chimney P¹
B- Air hole P¹
 - b. By opening the air hole completely to allow more air into the chimney for the laboratory gas to burn completely. P¹
2.
 - a. Separating funnel P¹
 - b. Liquid B P¹
 - c. Decantation P¹
3.
 - a. A- Solvent front P^{1/2}
B- Base-line P^{1/2}
 - b. Propanone, acetone, P¹
TP^{1/2}- Separates into one component only P^{1/2}
4. -The gas is being collected through downwards delivery P¹ yet it is less denser than air P^{1/2}
-The delivery tube removing the gas from flask B is dipped into the concentrated H₂SO₄ P¹, hence the gas cannot be collected P^{1/2}.
5.
 - a. E & F P¹
 - b. EG₂ P¹
 - c. B P^{1/2}- Has a filled outermost energy level. P^{1/2}
6.
 - a. Magnesium nitride P¹
 - b. $\text{Mg}_3\text{N}_2(\text{s}) + 3\text{H}_2\text{O}(\text{l}) \rightarrow 3\text{Mg}(\text{OH})_2(\text{aq}) + 2\text{NH}_3(\text{g})$ P¹
 - c. Manufacture of nitrogenous fertilizer, Manufacture of nitric (V) acid, As a refrigerant e.g. in large scale refrigerating plant such as ships and warehouses, Softening water, Removal of greasy stain, Manufacture of hydrazine that is used as rocket fuel. P¹
7. -Heat the mixture to sublime P¹ ammonium chloride leaving behind a mixture of copper(II) oxide and sodium chloride
-Add water to the remaining mixture, stir to dissolve sodium chloride P¹
-filter to obtain copper(II) oxide as the residue and sodium chloride solution as the filtrate P¹
-Heat the filtrate to evaporate water leaving behind sodium chloride. P¹
8. Calcium carbonate P¹