

NAME _____ CLASS: _____ ADM NO: _____

FORM 3

CHEMISTRY (PRACTICAL)

TIME: 1 HOUR

QUESTION

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You are provided with

- Acid solution **Q** made by dissolving 0.63 g of $\text{H}_2\text{X} \cdot 2\text{H}_2\text{O}$ to form 500 cm^3 solution.
- Sodium hydroxide solution **P** made by dissolving 0.16 g of NaOH pellets to form 200 cm^3 .

You are required to:

- Determine the concentration of solution **P**.
- Determine the relative molecular mass of **X** in the $\text{H}_2\text{X} \cdot 2\text{H}_2\text{O}$

Procedure

Fill the burette with solution **Q**. Using a pipette, pipette 25 cm^3 of solution **P** into 250 cm^3 conical flask. Add **2-3** drops of phenolphthalein indicator and titrate with solution **Q**. record your results in the table below. Repeat two more times to complete the table below.

	I	II	III
Final burette reading(cm^3)			
Initial burette reading(cm^3)			
Volume of Q used (cm^3)			

(4 mks)

- Determine the average volume of a solution **Q** used.

(1mk)

- b) Write a balanced chemical equation between **P** and **Q**. (1mk)
- c) Calculate the concentration of **P** in:
- i) Moles per litre (2mks)
- ii) Grams per litre (2mks)
- d) Calculate the molarity of solution **Q**. (3 mks)
- e) Calculate the formula mass of acid **H₂X.2H₂O** (2mks)
- f) Hence calculate the relative molecular mass of **X** (2 mks)