Organic chemistry

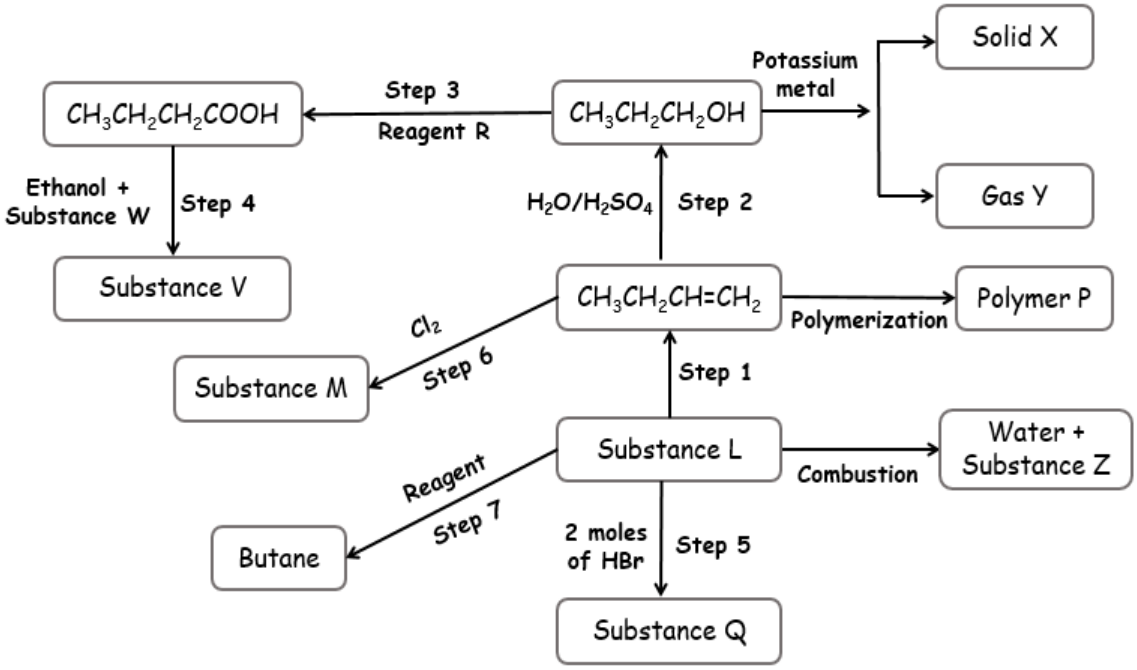
Question Paper 2

School	Miritini Secondary School
Student's Name	
Level	KCSE
Subject	Chemistry
Topic	Organic chemistry

Time allowed: 1Hour 7 min

Marks scored: _____/ 40

1. Study the flow chart below and answer the questions that follow.



(a) Draw the structural formula of;

(i) Substance L [1]

(ii) Polymer P [1]

(b) Name the following substances.

(i) M _____ [1]

(ii) Q _____ [1]

(iii) V _____ [1]

(iv) W _____ [1]

(c) Write an equation of reaction taking place in:

(i) Step 4 [1]

_____

(ii) Production of substance Z [1]

_____

(iii) Production of solid X and gas Y. [1]

_____

(d) Determine the number of moles of reagent required in **step 7**. [1]

_____

(e) Name the conditions necessary for the reactions in step **1**, **2**, **3** and **4**.

Step 1 _____ [1]

Step 2 _____ [1]

Step 3 _____ [1]

Step 4 _____ [1]

(f) Identity the processes taking place in steps **2, 3, 5** and **7.**

Step 2 _____ [1]

Step 3 _____ [1]

Step 5 _____ [1]

Step 7 _____ [1]

(g) What class of organic compounds does substance V belong to? [1]

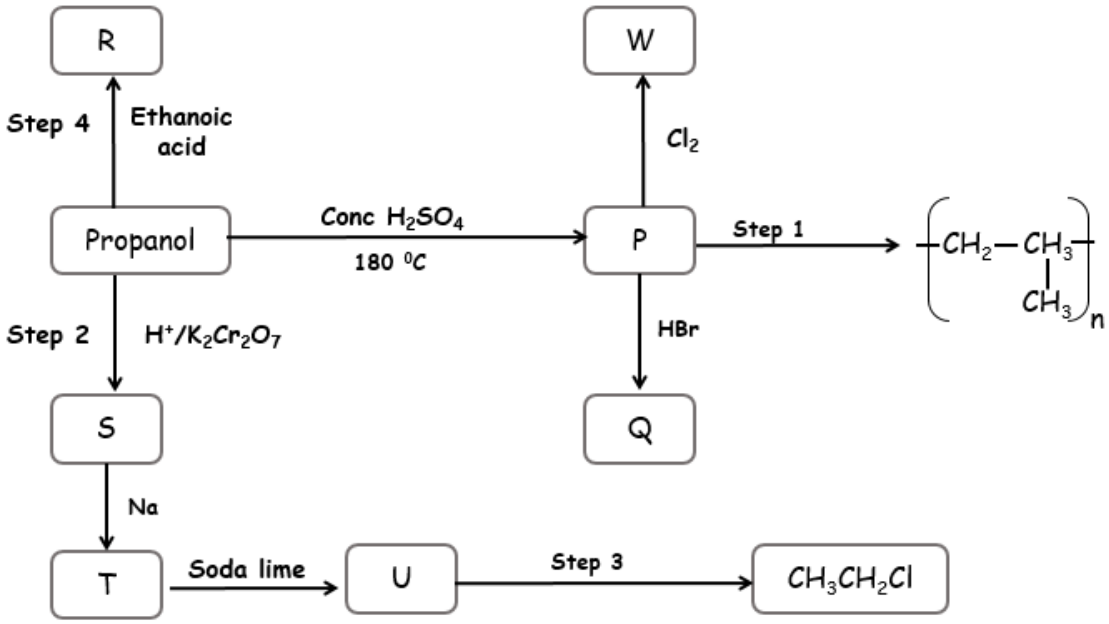
_____

(h) State one general characteristic of the class of compound that V belongs to. [1]

_____

(i) Describe how one can use a Bunsen flame to differentiate between butane and butane. [2]

2. The scheme below shows some reactions starting with propanol.



(a) Name substances R, P, S and T.

(i) R _____ [1]

(ii) P _____ [1]

(iii) S _____ [1]

(iv) T _____ [1]

(b) Draw the structural formula of;

(i) Substance W [1]

(ii) Substance U [1]

(c) Name the reagent and condition represented in **step 3**.

Reagent _____ [1]

Condition _____ [1]

(d) Name the type of reaction in;

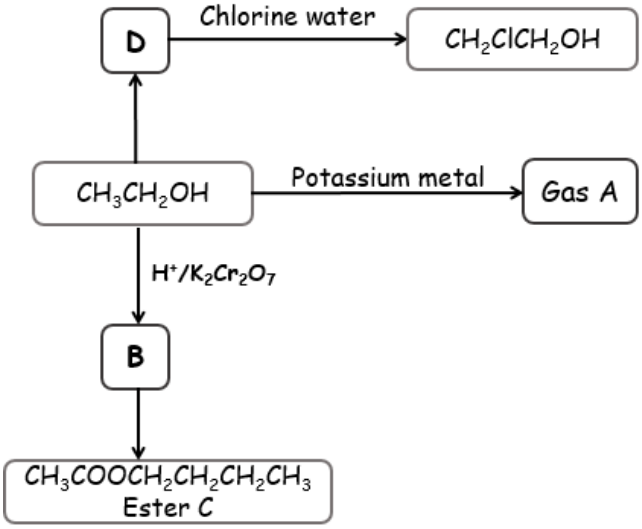
(i) Step 1 _____ [1]

(ii) Step 4 _____ [1]

(e) Write the chemical equation in step 4. [1]

_____

3. The scheme below shows some reactions of ethanol. Study it to answer the question that follow.



(a) Name gas A. [1]

_____

(b) Write and name the structural formulae of substances B and D.
Substance B [1]

Substance D [1]

(c) Name the type of reaction that take place when D reacts with chlorine water. [1]

_____

(d) Name the reagent and condition necessary for **B** to react and form **Ester C**.

Reagent [1]

_____

Conditions [2]

_____

_____