Chemistry III

015

04/ 08 / 2022 08:30 AM – 10:00 AM

NESA NATIONAL EXAMINATION AND SCHOOL INSPECTION AUTHORITY

ADVANCED LEVEL NATIONAL EXAMINATIONS, 2021-2022

SUBJECT: CHEMISTRY III

PAPER III: CHEMISTRY PRACTICAL EXAMINATION

COMBINATIONS:

- BIOLOGY-CHEMISTRY-GEOGRAPHY **(BCG)**
- MATHEMATICS-CHEMISTRY-BIOLOGY **(MCB)**
- PHYSICS-CHEMISTRY-BIOLOGY **(PCB)**
- PHYSICS-CHEMISTRY-MATHEMATICS **(PCM)**

DURATION: 3 HOURS

INSTRUCTIONS:

1) Write your name and index number on the answer booklet as written on your registration form and **DO NOT** write your names and index number on additional answer sheets if provided
2) Please read carefully before you start and make sure that you have all the apparatus and chemicals that you may need.
3) This paper consists of **one** question.
4) Answer the question in this paper and record your answers in the spaces provided.
5) Non-programmable scientific calculators may be used.

You are provided with a substance **A** which contains one cation and one anion. You are required to identify the cation and the anion in **A**. Carry out the following tests on **A** and record your observations and deductions in the table below. Identify any gases evolved.

	Test	**Observation**	**Deduction**
1	Heat strongly 2 spatulas of A in a test tube and identify any gas evolved using litmus paper and limewater. **(9 marks)**		
2	Dissolve 4 spatulas of A in approximatively 25 cm^3 of distilled water and divide this into 4 equal portions.	----------	----------
	i) To the first portion add drops of NaOH solution dropwise until in excess. **(4 marks)**		
	ii) To the second portion add few drops of ammonia solution dropwise until in excess. **(2 marks)**		
	iii) To the third part add few drops of potassium hexacyanoferrate solution. **(2 marks)**		
	iv) To the fourth portion, add dilute sulphuric acid followed by $KMnO_4$ solution and heat slowly. Test the gas by using blue litmus paper and lime water. **(5 marks)**		

v) What is the role of $KMnO_4$ in this test? **(1 mark)**

vi) Identify the cation in A. **(1 mark)**

vii) Identify the anion in A. **(1 mark)**