

**KIYALA HIGH SCHOOL**  
**END OF TERM ONE ASSESSMENT TEST -2024**  
**CHEMISTRY**  
**Paper 1 Theory**  
**S.3**

**2 Hours 30 minutes**

**INSTRUCTIONS**

- This paper consists of **six** examination items. It has **two** sections; **A** and **B**.
- Section **A** has **two** compulsory items.
- Section **B** has **two** parts; **I** and **II**. Answer **one** item from each part.
- Answer **four** examination items in all.
- Use of **illustrations and drawings** will earn you more scores.

**SECTION A**

*Answer **all** items from this section.*

**Item 1**

Silvesters is in the process of constructing his house without affecting the environment. He wants to build a good strong house; there are various building materials of different quality and properties on the market. However, he does not know the quality of materials to use.



Silvesters knows that choosing quality materials depends on the nature of the material and has come to you for advice.

***Task***

Use you chemistry knowledge to;

**a) Explain**

**i) Categories of materials.**

**(04 scores)**

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**ii) The suitability of the materials.**

**(08 scores)**

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**Task.**

As a chemistry student;

**a) Help Abel to;**

*i)* Understand the type of water in the well.

**(2 scores)**

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**ii)** Understand how the water from the well is formed.

*(7 scores)*

[illegible]

**iii) Know the ions responsible for the effects of that particular water type named above.** (4 s)

**(4 scores)**

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**b) Advise Abel on the possible ways of removing those ions and improve the quality of that water from the well. (use chemical equations to illustrate your work). (7 scores)**

10. (7 scores)

[illegible]

## SECTION B

### PART 1

Answer **one item** from this part.

#### **Item 3**

Abu, a student of Kiyala high school is trying to understand the occurrence of carbon in the environment. He was doing research and found out that, pure carbon is found in the form of diamond and impure carbon as graphite and that carbon is allotropic and therefore has allotropes.

#### **Task**

As a S.3 learner who has studied chemistry;

**a) Help Abu to;**

**i) Understand the meaning of allotropes.**

**(02 scores)**

**ii) Point out the (3) allotropes of carbon.**

**(03 scores)**

**iii) Cite out the properties of diamond and graphite, and in each case give two uses of each.**

**(10 scores)**

**b) Inform Abu on any other element that has allotropes as carbon does, hence give the allotropes of that element.**

**(05 scores)**

#### **Item 4**

Kumi hotel abruptly caught fire and was burning seriously. The manager of the hotel decides to call for a fire rescue team to come and help put off the fire. Unfortunately, the leader of the team finds that the gas they normally use got depleted and was looking for someone who could help manufacture the gas in order to be used.



#### **Task**

As a S.3 chemistry learner;

**a) i) Identify the gas used in putting off fire.**

**(01 score)**

**ii) What is the percentage composition of this gas in the atmosphere.**

**(01 score)**

**b) With the use of your school laboratory apparatus, help the fire rescue team to manufacture the gas to be used.**

**(08 scores)**

**c) Explain the chemical properties of this gas.**

**(10 scores)**

### PART II

Answer **one item** from this section.

#### **Item 5**

Zinc sulphate is a common, soluble salt found in *Orazinc*<sup>TM</sup> tablets given to patients with Zinc deficient symptoms. As an expert pharmacist at Cipla pharmaceuticals, you have been assigned to guide newly employed pharmacists on how to prepare the puer dry crystals of Zinc sulphate salt that will be used in the tablets.



### **Task**

In your guidance you are required to;

- i)** State **two (2)** substances from which *Orazinc*<sup>TM</sup> can be prepared? **(04 scores)**
- ii)** Mention the type of reaction that occurs during the preparation. **(02 scores)**
- iii)** Write a well-balanced molecular equation of reactions that occurs. **(1½ scores)**
- iv)** How can the *Orazinc*<sup>TM</sup> tablets be prepared in the laboratory from dilute sulphuric acid. **(4½ scores)**
- v)** With an example, mention any other **four (4)** uses of salts in our daily lives. **(8 scores)**

### **Item 6**

Mr. Omeri Peter a resident of Kumi always instructs his daughter using written messages to go and buy some things from the centre to be used at home. One morning as he was going for work, he left a sheet on the table instructing his daughter to go and buy an alkane. The daughter having little knowledge didn't know what an alkane is and what it's used for. She was now living in fear and doubts that what if her father had sent her to buy poison or an acid.

As a student who has studied carbon in life, help Mr. Omeri's daughter to clear off her doubts. **(20 scores)**

**Best wishes from Solomon.**