**WISDOM CITY VOCATIONAL SECONDARY SCHOOL**

**UGANDA CERTIFICATE FOR LOWER SECONDARY EDUCATION**

**END OF TERM ONE EXAMINATION 2023**

**S.2 CHEMISTRY PAPER 1**

**DURATION: 2 HOURS 30 MINUTES**

**CANDIDATE’S NAME: ………………………………………………………………………………………….**

**CANDIDATE’S NUMBER: ………………………………………………………………………………………**

**INSTRUCTIONS**

**This paper consists of two sections A and B.**

**Section A consists of 10 compulsory structured questions.**

**Section B has semi structured questions (Essay)**

**Attempt only TWO questions in section B on the answer booklets provided**

**Each question must be answered on a fresh answer sheet**

**Use a blue or black in pen only to answer questions and pencil for illustrations**

**SECTION A**

1. Explain why Chemistry is referred to as a central subject. (4 marks)

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1. (a) Why is it a good idea to tie back long hair in the laboratory? (1 mark)

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(b) Why is it not a good idea to put bags on the laboratory bench? (1 mark)

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(c) Why is it good to wear goggles when carrying out an experiment? (1 mark)

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(d) Why are we advised not to eat in the laboratory? (1 mark)

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1. For each of the following materials, state the best materials that can be used for its manufacture and give reasons for your choice.

i) A tea pot

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ii) Mineral bottle

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iii) Electrical wires

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iv) A blanket

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1. Study the table below having chemicals listed and answer the questions about them.

Table 1

|  |  |
| --- | --- |
| Iron | Water |
| Sand | Oxygen |
| Gold | Carbon dioxide |
| Helium | Carbon |
| Rust | Sea water |

(a) Name the two metals

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(b) Name a gas that is not an element

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(c) Name two compounds present.

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(d) Name a mixture

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(e) Name a non-metallic element that is a solid listed above

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1. Argon, oxygen and Nitrogen are obtained from a mixture of air in liquid air at -2500C. Where liquid air warmed up and the gases are collected on by one.

(a) State the method used in separation of the individual components of air from the mixture. (½ marks)

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(b) Explain why the above method is preferred in the separation of the mixture of air. (Marks)

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c) During the distillation of the above gases Nitrogen is obtained first then argon and oxygen. Explain this phenomenon. (1 mark)

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d) Name the other gases which are not collected through the fractionating column during the above process. (1 mark)

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1. Chemistry is a discipline of science that deals with the study of matter and the substances that constitutes it. It also deals with the properties of these substances and the reactions undergone by them to form new substances. Chemistry is around us and involved in everything we need, do and interact with. Use the chemical reactions below to fill in the spaces below.

i) Combustion ii) Rust iii) Batteries

iv) Digestion v) Fermentation vi) Baking

vii) Photosynthesis viii) Washing

Green plants use a chemical reaction called to convert carbondioxide and water into food (glucose). It avails food to plants and animals.

Involves the breakdown of food substances into smaller soluble particles that can be absorbed in the body

Is a substance formed when Iron reacts with oxygen and water. It weakens Iron particles and makes Iron cuttery tools blunt

Use the Chemistry of storage of chemical energy and converting it to electrical energy.

1. (a) State the difference between a mixture and a compound (2 marks)

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(b) Mention any two examples of mixtures you know. (2 marks)

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1. i) Define the term air pollution. (1 mark)

ii) State three sources of air pollution you know. (3 marks)

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1. Describe an experiment used to measure the percentage composition of oxygen in air. (Diagram not required). (4 marks)

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1. Outline the steps taken in lighting and extinguishing a Bunsen burner. (4marks)

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**SECTION B**

**(ANSWER ALL QUESTIONS ON A FRESH PAGE)**

1. a) Describe an experiment to show that air contains

i) Carbon dioxide (4 marks)

ii) Dust particles (4 marks)

b) Write the uses of the following gases

i)Oxygen (2 marks)

ii) Nitrogen (2marks)

iii) Carbon dioxide (2 marks)

iv) Argon (1 mark)

1. a) i) Describe with the aid of a well labelled diagram an experiment that can be used to separate paraffin from water. (7 marks)

ii) Suggest a reason why the above method is used to separate the mixture. (2 marks)

b) When solid iodine was heated it directly changed into violet vapour without melting

i) What name is given to this process? (1 mark)

ii) Name other three substances that undergo a similar process like iodine. (3 marks)

iii) Suggest any two mixtures that can be separated by the above method (2 marks)

**NO SWEAT NO SUCCESS**