



Student's Assessment Number.....

PRESIDENT'S OFFICE - RALG

ROMBO DISTRICT EXAMINATION SYNDICATE (RODES)

FORM TWO MOCK ASSESSMENT EXAMINATION



032

CHEMISTRY

Time 2.30 Hours

August, 2024

INSTRUCTIONS

1. This paper consists of sections A, B and C with a total of **ten (10)** questions.
2. Answer **all** questions.
3. Section A and C carry **fifteen (15)** marks each and section B carries **seventy (70)** marks.
4. All writings should be in blue or black ink **except** diagrams which must be in pencil.
5. Cellular phones and any unauthorized materials are **not** allowed in the assessment room.
6. Write your **Assessment Number** at the top right corner of every page.
7. The following atomic masses may be used: O=16, S=32

FOR ASSESSOR'S USE ONLY

QUESTION NUMBER	SCORE	ASSESSOR'S INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
CHECKER'S INITIALS		

SECTION A (15 Marks)

Answer **all** questions in this section

1. For each of the items (i)-(x), choose the correct answer from the given alternatives and write its letter in the table provided below (x).
- i. Chemistry subject is divided into different branches; which one among the following deals with carbon and its compounds?
 - A. Biochemistry
 - B. Analytical chemistry
 - C. Inorganic chemistry
 - D. Organic chemistry
 - ii. Which of the following sets of substances are examples of flammable liquids?
 - A. Petrol, sulphuric acid and methylated spirit
 - B. Methylated spirit, petrol and kerosene
 - C. Kerosene, diesel and hot water
 - D. Petrol, pesticides and hydrogen
 - iii. Form three students were advised by their chemistry teacher to use powdered chemical during chemical reaction experiments instead of using crystals. Which apparatus they will use to get fine powder from crystals?
 - A. Mortar and pestle
 - B. Mortar and Bunsen burner
 - C. Crucible and lid
 - D. Pestle and filter funnel
 - iv. During the laboratory preparation of oxygen, the volume of water in the water trough increases. What is the reason behind this fact?
 - A. Oxygen is soluble in water
 - B. Oxygen is a colourless gas and have high density
 - C. Oxygen collected in the gas jar displaces water out of it
 - D. Oxygen relights a wooden glowing splint
 - v. You are provided with element **Y** having two isotopes; $^{238}_{92}\text{Y}$ and $^{235}_{92}\text{Y}$. How will you differentiate the two isotopes?
 - A. $^{238}_{92}\text{Y}$ has 3 more protons and 3 more electrons
 - B. $^{238}_{92}\text{Y}$ has 3 more protons but no more electrons
 - C. $^{238}_{92}\text{Y}$ has 3 more neutrons and 3 more electrons
 - D. $^{238}_{92}\text{Y}$ has 3 more neutrons and no more electrons
 - vi. When a burning fuel produces blue colour, this means that there is;
 - A. Adequate supply of oxygen with production of soot
 - B. Adequate supply of oxygen with production of less heat
 - C. Inadequate supply of oxygen with production of more heat
 - D. Adequate supply of oxygen with production of more heat
 - vii. During the bond formation, some of atoms lose, share or gain electrons in order to become stable. Which of the following is the group of atoms which lose electron(s) during bond formation?
 - A. C, Na, Ca and Mg
 - B. Ne, Na, Mg and K

- C. Na, K, Ca and Ag
D. O, N, Cl and F
- viii. Why a mixture containing 200cm^3 of alcohol and 150cm^3 of water can be separated by using a fractional distillation?
 A. The two component differ in boiling points
 B. The two components are liquids at room temperature
 C. The two components differ in volume
 D. The volume of water is less than the volume of alcohol
- ix. Coke is obtained from destructive distillation of coal. What is the aim of the destructive distillation process of a coal?
 A. To add oxygen gas in the furnace
 B. To remove the volatile matter
 C. To add the volatile matter
 D. To remove the oxygen gas from the furnace
- x. What will be the formula formed when element W of group II Combines with element Z of group VII?
 A. WZ
 B. WZ_2
 C. W_2Z_7
 D. W_7Z_2

Answers

i.	ii.	iii.	iv.	v.	vi.	vii.	viii.	ix.	x.

2. Match the material in **LIST A** with the correct method of preventing rusting in **LIST B** by writing the letter of the correct answer below the item number in the table provided.

LIST A		LIST B	
i.	Iron sheets	A.	Oiling
ii.	Tin cans	B.	Painting
iii.	Bicycle chain	C.	Electroplating
iv.	Handbag and camera	D.	Galvanization
v.	Car bodies	E.	Alloying
		F.	Use of silica gel
		G.	Tin plating

ANSWERS

LIST A	i.	ii.	iii.	iv.	v.
LIST B					

Student's Assessment Number

SECTION B (70 Marks)
Answer **all** questions in this section

3. (a) Suppose you have been appointed by a chemistry teacher to prepare a morning speech basing on different definitions in “Laboratory techniques and safety”. Elaborate on how you would prepare your presentation on the following concepts;

i. A laboratory

ii. A laboratory rule

iii. A laboratory measure

iv. A chemistry laboratory

v. A chemistry apparatus

(b) As an expert in chemistry, after completing school you would meet with an individual who completely does not know that studying chemistry is meaningful in our daily life. Give five (5) reasons to educate that individual on the benefits of studying chemistry.

4. (a) You have been provided an isotope of carbon with mass number of 13 and atomic number of 6.

i. Write its nuclide notation

ii. How many electrons does it have?

iii. How many protons does it have?

iv. How many neutrons does it possess?

v. Write its electronic configuration

(b) Give the modification of the following Dalton's atomic theory

i. Atoms of one element are identical and have the same mass

ii. Atoms can neither be created nor destroyed

iii. Matter is made up of smallest particles called atoms which cannot be split into other smallest units.

iv. Atoms of one element combine with atoms of another element in simple whole ratios to form compounds

(c) Why $^{12}_6\text{Z}$ and $^{14}_6\text{Z}$ are isotopes of Z?

5. (a) Assume you are conducting an experiment in a chemistry laboratory, name one apparatus that could be used for each of the following functions;

i. Measuring a specific volume of a liquid _____

ii. Measuring accurate volume of a liquid _____

iii. Measuring temperature of a body _____

iv. Condensing hot vapour _____

v. Collecting a gas during its preparation _____

(b) A chemistry teacher asked form two students to propose a fuel to be used to the school kitchen. As one among the form two students, what criteria would you consider in proposing a good fuel to be used in a school kitchen? Provide five (5) points.

6. (a) There has been a certain disease facing Mwendapole village for many years. As an expert, you have been chosen to find out the solution of the problem, what steps would you follow? Give six (6) steps.

(b) For each of the following statements, give one reason to support it;

- i. Coal and petroleum are non-renewable sources of energy.

- ii. Helium is used in filling weather balloons than hydrogen.

- iii. Group VIII do not form compounds

- iv. Water acts as a universal solvent.

7. (a) Fill in each of the space provided in the table below:

Sub-atomic particle	Location	Charge	Relative mass
Proton	In the nucleus		
.....	In the nucleus	0	1
Electron		-1	$\frac{1}{1840}$

(b) Differentiate three states of matter (solid, liquid and gas) by basing on the following properties; shape and movement of particles.

Property	Solid state	Liquid state	Gas state
Shape			
Movement of particles			

8. (a) Sodium combines with chlorine to form sodium chloride while carbon combines with sulphur to form carbon disulphide. Basing on the bond formation, give five (5) differences between the two compounds formed.

- i.
- ii.
- iii.
- iv.
- v.

Compound name	Chemical formula
Water	
Sodium carbonate	
Aluminium sulphate	

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SECTION C (15 Marks)

Answer question **ten (10)**

10. Gas B is prepared in the laboratory by the decomposition of potassium chlorate (V) in the presence of a catalyst Q.

a) Give the name of;

i. Gas B _____

ii. Catalyst Q _____

b) Write the formula of;

i. Potassium chlorate (V) _____

ii. Catalyst Q _____

c) State three chemical properties of gas B.

d) Draw a well-labeled diagram representing the preparation of gas B by using the chemicals provided above.

