

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT OFFICE - REGIONAL ADMINISTRATION AND
LOCAL GOVERNMENT

LUDEWA MOCK EXAMINATION 2022
FORM II CHEMISTRY
MARKING SCHEME.

01

i	ii	iii	iv	v	vi	vii	viii	ix	x
D	C	A	B	B	D	A	C	A	A

1 mark @ 5 = 5 Marks

02

(i)	(ii)	(iii)	(iv)	(v)
E	L	J	I	A

1 mark @ 5 = 5 Marks.

- 03
- (a) - Helps to make fertilizers
 - Helps to make pesticides
 - Helps to make herbicides
 - Helps to advise farmers on the best use of soil.
 - Helps to make animal vaccines.
- 1 mark @ 5 = 5 Marks

(b) (i) First Aid Kit 1 mark

- (ii) - Plaster - Used to cover minor / small wounds. 1 mark @ 4 = 4 marks
 - Cotton pads - Used to clean wounds.
 - Antiseptic - Used to prevent wound from being infected by germs / bacteria
 - Pain killers used to reduce pains.

- 4
- (a) - It is very hot hence produce large amount of heat.
 - Does not produce soot.
 - It is steady
 - It does not consume time when you are heating.
- 1 mark @ 4 = 4 marks.

- 4 (b) - (i) It helps use to gain new knowledge. $1\frac{1}{2}$ marks @ 4
 (ii) It helps use to conduct project works = 6 marks.
 (iii) Helps to get correct answers about a particular problem and reduce conflicts in the society.
 (iv) Helps to carry out field study.

- 5 (a) i) A - Pop sound 1 mark
 B - Glowing wooden splint. 1 mark

- (ii) - Manufacture of Margarine 1 mark @ 5 = 5 Marks
 - Manufacture of Ammonia
 - Oxy-hydrogen flame
 - Rocket fuel
 - Manufacture of hydrochloric acid
 - Filling weather balloons.

- (b) (i) Sodium 1 mark
 (ii) Sodium oxide (Na_2O) 1 mark
 (iii) Sodium + Oxygen \longrightarrow Sodium Oxide 1 mark.
 Yellow solid, colourless gas. Pale yellow solid.

6a

(i) Decantation. This is the method that can be used to obtain clean water from muddy water. You will allow muddy water to settle for sometime in a container. The particles will remain at the bottom of the container and we get clean water. **2 Marks**

(ii) Filtration

This is the method used to separate insoluble solids from water by using a piece of cloth or filter paper or sand beds. **2 marks**

6b)

(i) Mistake: The chemical symbol of sodium is not derived from English name. **1 mark**

Correct symbol of sodium: The chemical symbol of sodium is derived from the first and second letter of its latin name Natrium. **1 mark**

∴ The chemical symbol of sodium is Na.

(ii) Mistake: The chemical symbol of iron is not derived from its english name. **1 mark**

Correct symbol of Iron: The chemical symbol of iron is derived from the latin name of iron which is Ferrum and its chemical symbol is Fe. **1 mark**

(iii) Mistake: All letters representing chlorine are in Capital letter **1 mark**

Correct symbol of chlorine: The first letter should be a Capital letter and the second letter should be a small letter. Its chemical symbol is Cl. **1 mark**

7a (i) Water 1 mark

- (ii) - Dry powder fire extinguisher 2 marks.
 - Carbon dioxide fire extinguisher

- (iii) - If the fire is small use fire blanket or sand.
 - If the fire is big you can use: 2 marks.
 - Carbon dioxide fire extinguisher

(iv) Dry powder fire extinguisher. 1 mark.

7(b) Because of:

- High amount of humidity / water vapour 2 marks
- Also oxygen is ~~less~~ denser than air so in coastal cities there is large amount of oxygen than other cities that they are not located in coastal. 2 marks

∴ Water vapour and Oxygen these are the conditions necessary for rusting. 2

8a

ELEMENT	SODIUM	NITROGEN	OXYGEN
% composition	27	16.5	56.5
Divide by RAM	$\frac{27}{23} = 1.174$	$\frac{16.5}{14} = 1.179$	$\frac{56.5}{16} = 3.53$
Divide by smallest value	$\frac{1.174}{1.174}$	$\frac{1.179}{1.174}$	$\frac{3.531}{1.174}$
Obtain the whole number ratios	= 1 = 1	= 1.001 = 1	= 3.001 = 3
	Na ₁	N ₁	O ₃

1 mark

1 mark

1 mark

1 mark

∴ The simplest formula of a compound is NaNO₃ 1 mark

- 8b
- (i) KCl - Potassium chloride 1 mark
 - (ii) Na_2SO_4 - Sodium tetraoxosulphate (VI). 1 mark
 - (iii) CaCl_2 - Calcium dichloride (Calcium chloride) 1 mark
 - (iv) AlCl_3 - Aluminium trichloride (Aluminium chloride) 1 mark
 - (v) SF_6 Sulphur hexafluoride. 1 mark.

9 (a) The relative atomic mass of oxygen is equal to:

$$\left(16 \times \frac{99.76}{100}\right) + \left(17 \times \frac{0.04}{100}\right) + \left(18 \times \frac{0.20}{100}\right) \text{ 2 marks.}$$

$$= 15.96 + 0.0068 + 0.036$$

$$= 16.00$$

\therefore The relative atomic mass of oxygen = 16.00 2 marks

9 (b) $\frac{1}{2} @ 12 \text{ items} = 6 \text{ Marks.}$

No	Atom	Protons	Electrons	Neutrons
(i)	Beryllium	4	4	5
(ii)	Flourine	9	9	10
(iii)	Sodium	11	11	12
(iv)	Oxygen	8	8	8

10

Introduction. $1\frac{1}{2}$ Marks

Biogas is produced by fermentation of organic matter for example from solid wastes like animal dung, green wastes and municipal waste.

Biogas has methane gas as the main constituent. It burns to provide heat that may be used as a fuel.

Biogas is produced in biogas plant.

Advantage of using biogas. 2 marks @ 6 = 12 Marks.

- It is a cheap source of energy.
- It keeps the environment clean.
- It is a renewable source of energy.
- Use of this technology is the source of employment and income.
- Helps to control air pollution by decomposing sewage and animal dung.
- It burns readily. It has a convenient ignition temperature.

Conclusion. $1\frac{1}{2}$ Marks.