

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
TANGA REGION
FORM TWO PRE-NATIONAL EXAMINATION
CHEMISTRY

032

TIME: 2.00 HOURS

File: 23rd AUGUST 2019

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- 032**
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SECTION A: (20 Marks)

Answer all questions in this section:

1. Items (i) – (x) consists of Multiple choice questions, choose the letter of the most correct response and write it against the number in the box provided below.

- i) The process of coating iron or steel with zinc is known as:
A) Zinc painting
B) Allowing
C) Tin plating
D) Galvanization
- ii) A table spoonful of sugar was dissolved in a glass of water and the mixture was shaken, the mixture formed is called _____ mixture.
A) Heterogeneous
B) Immiscible
C) Suspension
D) Homogenous
- iii) The apparatus used for grinding granular chemicals in the laboratory includes:
A) Crucible and watch glass
B) Mortar and pestle
C) Pestle and watch glass
D) Mortar and spatula
- iv) One of the following gases produces sound with a glowing splint.
A) Oxygen
B) Hydrogen
C) Nitrogen
D) Halogen
- v) Most syrup bottles are labeled “ shake well before use”, This means the syrups are:
A) Suspension
B) Solution
C) Filtrates
D) Residues
- vi) The appropriate extinguisher used to put off fire caused by electricity is:
A) Carbon dioxide extinguisher
B) Water extinguisher
C) Wet chemical extinguisher
D) Dry air extinguisher
- vii) How many number of shells in sodium ion?
A) 1
B) 2
C) 3
D) 4
- viii) Why is water termed as universal solvent?
A) It is neither acidic nor basic
B) It occurs naturally in all the three states of matter
C) It dissolves more substances than any other liquid.
D) Dissolves both organic and inorganic solutions.
- ix) The mass number of an atom is determined by:
A) Protons and electrons
B) Electrons and neutrons
C) Protons only
D) Protons and neutrons
- x) Technicians prefer to use Non-luminous flame in welding because:
A) It is bright and non-sooty
B) It is light and non-sooty
C) It is very hot and large
D) It is very hot and non-sooty

ANSWERS:

i	ii	iii	iv	v	vi	vii	viii	ix	x
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2. a) Matching items:

Choose the letter of the item in List “B” which perfectly matches with the number in List “A” and write the letter against the number in the box provided below.

KIST A	LIST B
i) A method of separating ethanol and water	A) Chromatography
ii) A method of separating iodine and sand	B) Decantation
iii) A method used to get cooking oil from seeds.	C) Simple distillation
iv) A method used to obtain salt from sea water	D) Evaporation
v) A method used to separate kerosene from water.	E) Layer separation
	F) Solvent extraction
	G) Fractional distillation
	H) Sublimation

ANSWERS

LIST A	i	ii	iii	iv	v
LIST B					

2. b) Fill in the blanks

- Atoms of the same element with different number of neutrons are called _____
- A bond formed by moving electrons from one atom to another is called _____
- _____ is a metal which is liquid at room temperature.
- A gas that extinguishes a glowing splint is _____.
- A metal which is part of the salt we are using in our meals is _____

SECTION B 80 (Marks)

3. a) Define the following terms:

- Fuel _____
- Energy _____

b) Give two examples of:

- Solid fuel _____, _____
- Gas fuel _____, _____
- Liquid fuel _____, _____

c) Outline five (05) characteristics of a good fuel

- _____

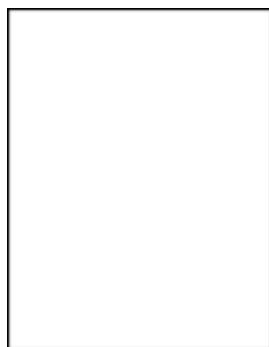
- ii) _____
- iii) _____
- iv) _____
- v) _____

4. a) i) What is Chemistry?

ii) Write down any four importance of studying Chemistry.

b) Draw and write the meaning of the following chemical symbols

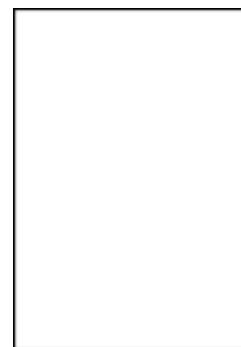
i) Harmful



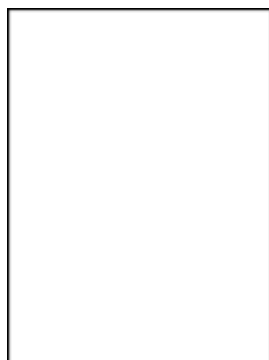
ii) Toxic



iii) Oxidant



iv) Corrosive



v) Flammable



5. When zinc granules and sulphuric acid are reacted, a gas Z is produced.

- a) Name gas Z. _____
- b) Name the method used to collect the gas. _____
- c) Why is it possible to collect the gas by the method said in (b) above?

- d) What is the chemical test for gas Z? _____
- e) List down any three physical properties of gas Z.
i) _____
ii) _____
iii) _____
- f) List down any one chemical property of gas Z.

- g) State any two uses of gas Z.
i) _____
ii) _____

6. a) Define the following terms:

- i) Compound _____
- ii) Mixture _____

- b) i) Is Air a compound or a mixture? _____
ii) Give three reasons to support your answer in b(i) above.

c) What are the differences between mixture and compound? Give four differences.

COMPOUND	MIXTURE
i)	
ii)	
iii)	
iv)	

7. a) Define the following terms:

- i) Empirical formula _____
- ii) Molecular formula _____

b) An Organic compound contains 26.7% Carbon, 2.2% Hydrogen and 71.1% Oxygen. If its relative molecular mass is 0 determine its:

- i) Empirical formula _____
- ii) Molecular Formula _____

8 a) Write the formula of the following radicals:

i) Sulphate ion _____

ii) Nitrate ion _____

iii) Hydrogen carbonate ion _____

iv) Hydroxide ion _____

v) Carbonate ion _____

b) Name the following compounds

i) ZnCl_2 _____

ii) CuSO_4 _____

iii) Cu_2O _____

iv) FeCl_3 _____

v) FeCl_2 _____

9. a) Define the following terms

i) Valency _____

ii) Oxidation state _____

b) Find the Oxidation states of the underlined elements in the following compounds

i) $\underline{\text{Mg}}\text{O}$

ii) $\underline{\text{Cr}}_2\text{O}_7$

iii) $\underline{\text{C}}\text{O}_2$

iv) $\text{K}\underline{\text{Mn}}\text{O}_4$

v) $\underline{\text{N}}\text{O}_2$

vi) $\text{K}\underline{\text{Cl}}\text{O}_3$

vii) $\underline{\text{S}}\text{O}_2^{-4}$

viii) $\underline{\text{S}}\text{O}_2$

10. a) Draw a well labeled diagram showing the apparatus arrangement for the preparation of Oxygen in the laboratory from Hydrogen peroxide.

b) Write balanced chemical equation for the above reaction.

c) Name the catalyst used in this process.