



CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)
CSSC JOINT EXAMINATIONS FOR CHURCH SCHOOLS
EASTERN ZONE
FORM II PRE – NATIONAL EXAMINATION 2024
CHEMISTRY

CODE: 032**Time: 2:30 Hours****Date: Friday, 23rd August, 2024 a.m****Instructions**

1. This paper consists of sections **A, B and C** with a total of **ten (10)** questions.
2. All writings must be in black or blue ink. EXCEPT drawings which must be in pencil.
3. All answers must be written in the spaces provided.
4. Cellular phones and any unauthorized materials are not allowed in the Examination room.
5. Write your **Examination Number** on the top right hand corner of every page.
6. The following atomic masses may be use:

H = 1 C = 12 Cl = 35.5 S = 32 O = 16

FOR EXAMINER'S USE ONLY

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

SECTION A: (15 Marks)

1. For each of the items (i – x), choose the most correct answer from the given alternatives and write its letter beside the item number in the space provided.
- (i) If the element M in the group I combines with element X of group VI, the formula of the compound formed is;
- A. MX_2
 - B. MX_O
 - C. X_2M
 - D. M_2X
- (ii) What is the aim of chlorination process in water treatment?
- A. Killing micro-organisms
 - B. Forming suspension
 - C. Removing bad odours
 - D. Syrup making
- (iii) A large percent of air is composed of:-
- A. Oxygen
 - B. Noble gas
 - C. Nitrogen
 - D. Carbondioxide
- (iv) During practical work a measuring cylinder was used to prepare oxygen gas by decomposing hydrogen peroxide. What is the function of the measuring cylinder in this experiment?
- A. To measure density
 - B. To measure volume
 - C. To measure width
 - D. To measure weight
- (v) One of the simplest experiment to carryout is dissolving sodium chloride in water until the solute is not dissolving any more. What type of solution formed at the end of this experiment?
- A. Saturated
 - B. Unsaturated
 - C. Supper saturated
 - D. Suspension
- (vi) When referring to modern periodic table non-metals are found between.
- A. Group III and VIII
 - B. Group IV and VII
 - C. Group II and III
 - D. Group VI and VII
- (vii) Which of the following group of substances represents flammable liquids?
- A. Petrol sulphuric acid, methylated spirit

- B. Petro, pesticides, hydrogen
- C. Methylated spirit, petrol kerosene
- D. Kerosene, diesel and hot water

(viii) The total number of protons and neutrons in the nucleus of an atom is called:-

- A. Valency number
- B. Atomic number
- C. Molecule number
- D. Mass number

(ix) Atomic structures of all elements consist of electrons, protons and neutrons, EXCEPT that of;

- A. Nitrogen
- B. Hydrogen
- C. Carbon
- D. Oxygen

(x) A student who gets burns accidentally in the chemistry laboratory would be given one of the following as first aid.

- A. Silica jelly
- B. Antibiotic solution
- C. Petroleum jelly
- D. Potassium permanganate

Answers

i	ii	iii	iv	v	vi	vii	viii	ix	x

2. Match the items in **List A** with correct responses in **List B** by writing the letter of the correct response below the corresponding item number in table provided below.

LIST A	LIST B
(i) A method used to separate immiscible liquid.	A. Saturated solution
(ii) Heterogeneous mixture.	B. Emulsion
(iii) Solution that dissolves more solute at a given temperature and pressure.	C. Suspension
(iv) Solution which do not dissolve more solutes at a given temperature.	D. Ethanol
(v) Milk.	E. Super saturated solution
	F. Unsaturated solution
	G. Layer separation
	H. Hydrogen oxide

Answers

List A	i	ii	iii	iv	v
List B					

SECTION B: (70 Marks)

Answer **all** questions from this section

3. Element A and B in the periodic table have atomic numbers 12 and 13 respectively.

(a) What type of bond forms when element A combines with chlorine.

(b) Write the electronic configuration of element A

(c) Show the formation of a compound in part (a) by using electronic diagram.

(d) Show the valency, period and group to which element A and B belong.

4. Briefly explain each of the following.

(a) Candles are not suitable for heating in the laboratory.

(b) Anhydrous Copper (II) Sulphate left outside for a whole night.

(c) Metal ions have one shell less compared to their neutral atoms.

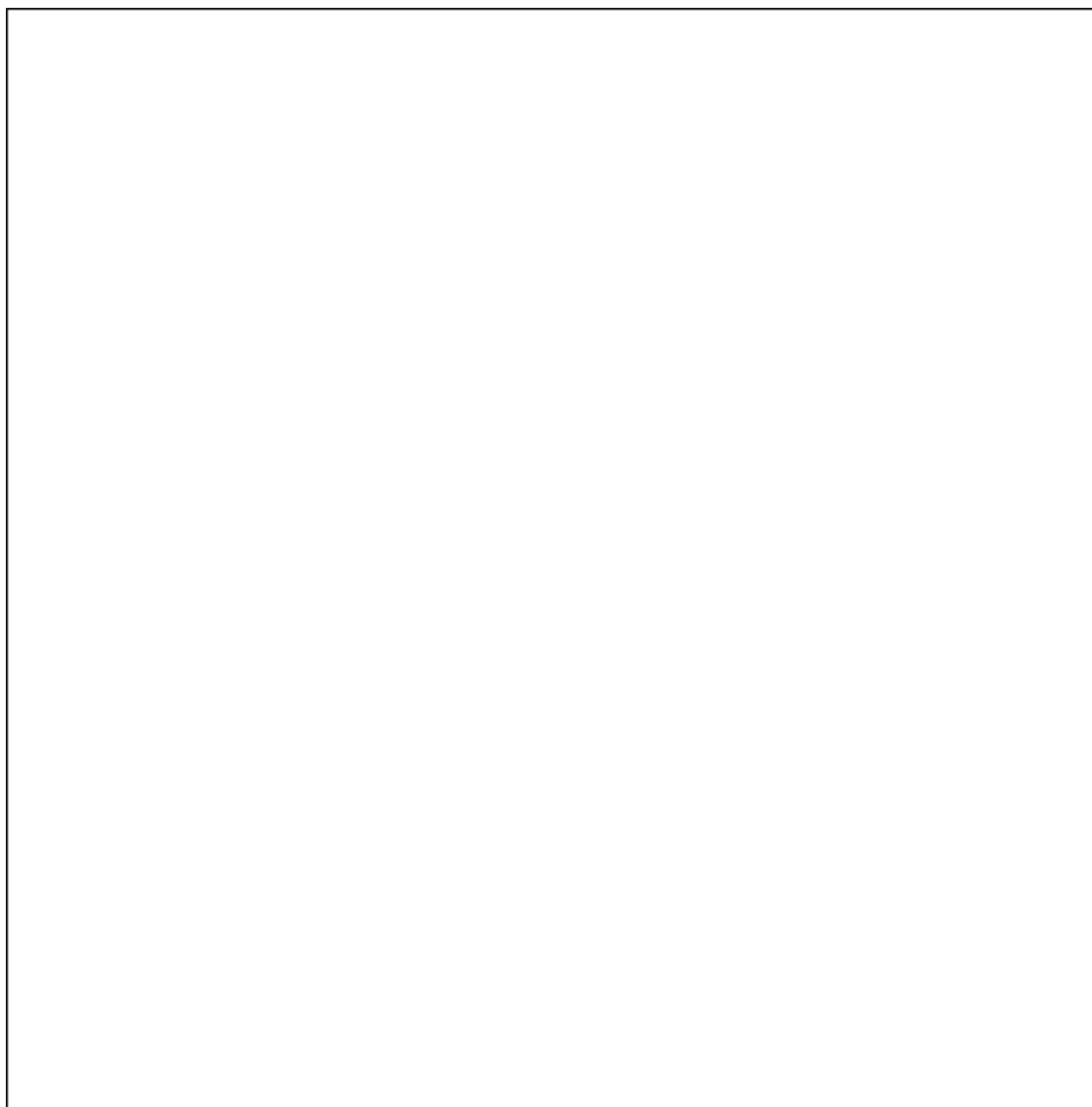
(d) Aquatic life is possible although organism need oxygen for respiration.

(e) Water is said to be compound. (one reason)

5. (a) What is the empirical formula?

(b) A compound M is composed of 52.2% Carbon, 13% hydrogen and the rest is oxygen. If the molecular mass of M is 138. Calculate;

(i) The empirical formula



(ii) The molecular formula



6. (a) During preparation of hydrogen gas by the reaction between dilute hydrochloric acid and zinc granules, the granules slowly dissolve in acid to form solution Z.

(i) Write the name of substance “Z”.

(ii) Write the chemical equation of the whole reaction.

(b) (i) How can hydrogen be tested?

(ii) Why hydrogen gas is used in preparation of margarine and water gas.

7. (a) What are so special for a fuel to be termed as a “good fuel” (Four reasons)

(b) (i) Most of Tanzania are using non-renewable source of energy of cooking. Outline four non-renewable source of energy.

(ii) Why is Bunsen burner the best heat source in the laboratory? (two reasons)

8. (a) (i) Why a flame produced by a spirit lamp not be good for heating in the laboratory.

- (ii) What is the type of flame produced by spirit lamp?

- (b) By using locally available materials in your school, state how the fire can be extinguished in the following situations.

- (i) Kerosene spilled on the floor catches fire.

- (ii) Friends clothes catch fire which gets out of her control.

- (iii) Rubber catches fire at home.

9. (a) Differentiate between a change occurred between burning of a paper and dissolving sugar into water. (Give four points)

- (b) Tell whether the following is chemical change or physical change.

(i) Rotting of mango _____

(ii) Clouds changing into rain _____

(iii) Decaying of teeth _____

(iv) Rusting of iron _____

(v) Freezing of juice _____

(vi) Drying of clothes _____

SECTION C: (15 Marks)

Answer question number ten (10)

10. (a) During mixture separation, one student mixed some sand and wax in a glass jar. A student then added a small amount of petrol and shake vigorously. After two minutes, a student noted that the sand only remained, but student failed to know why only sand remained. Please help the student to explain what happed.

- (b) A part from an atom having proton, electron and neutron as subatomic particles, it has two main parts. Briefly explain the two parts. (Diagram is unnecessary).

- (c) Differentiate sodium metal from sodium ion. (two points)
