



- (vi). Which of the following substances occupies the shape of the container? A. Solid      B. Particle      C. Liquid      D. Crystal.
- (vii). Why do you think that hydrogen is not a constituent of air?  
 A. Because of being highly flammable  
 B. Because of being a reducing agent  
 C. Because of being very light  
 D. Because of being very reactive/
- (viii). Your friend, Sia wants to buy camera which is fragile instrument. In order for it to last for long period of time, how can he prevent rusting?  
 A. By using silica gel                      B. using ethanol  
 C. By galvanization                      D. By using oil;
- (ix). The most common industrial method of preparing oxygen;  
 A. Electrolysis of copper sulphate  
 B. Decomposition of hydrogen peroxide  
 C. Electrolysis of bases  
 D. Fractional distillation of liquefied air.
- (x). ..... is an apparatus used to measure a fixed volume of liquids in the laboratory?  
 A. Test tube      B. Beaker      C. Pipette      D. Measuring cylinder

#### Answers

I	ii	Iii	Iv	v	vi	Vii	viii	ix	X

2. Match each item in list A with correct response in list B by writing the letter of the correct response below the corresponding item number in the table provided

List A		List B
(i)	A condition in which the body system is unable to take enough blood to the vital organs.	A. Bruises
(ii)	A skin injury caused by hard hit.	B. Fainting
(iii)	Sudden loss of consciousness caused by lack of sufficient blood and oxygen to the brain.	C. Suffocation
(iv)	Blockage of the upper part of the airways by food, drink or other objects.	D. Chocking
(v)	A condition in which the lungs are not getting enough oxygen causing difficulty in breathing.	E. Shock
		F. Burns
		G. Poisoning
		H. Burns
		I. Bleeding

#### SECTION B: (70MARKS)

3. (a) Mrs. Msema kweli was addressing the villagers about use of water for economic values. What 4 values will she tell the villagers
- i. \_\_\_\_\_

- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_

(b) Is an air a mixture or a compound? Give 4 reasons

- i) \_\_\_\_\_
- ii) \_\_\_\_\_
- iii) \_\_\_\_\_
- iv) \_\_\_\_\_

4.

(a) The colour of  $CrO_4^{2-}$  is yellow and that of  $Cr_2O_7^{2-}$  is orange. Calculate the oxidation number of Cr in both of these radicals.

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(b) Give one (1) reason to support the following statements:

(i) A luminous flame is said to be safer and less likely to cause accident in the laboratory.

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(ii) Chemicals which are not correctly labelled should not be used in the laboratory.

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(iii) The components of a mixture of water and cooking oil are separated using layer separation method.

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5. (a) State three sub-atomic particles and their respective charge.

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_

(b) State the four modification of Dalton's atomic theory

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_

(c) Draw and write the electronic configuration for the atoms having the following atomic numbers.

(i)  ${}_4\text{Be}$

(ii)  ${}_{14}\text{Si}$

6. (a) Distinguish the following substances.

i. Homogenous mixture from heterogeneous mixture.

ii. Miscible from immiscible liquids.

iii. Saturated from unsaturated solution.

(b) Give two chemical tests for pure water

- i. \_\_\_\_\_
- ii. \_\_\_\_\_

7. (a)Asha want to select a good fuel for domestic uses in her home what things should she considered? (Mention six (6))

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_
- v. \_\_\_\_\_
- vi. \_\_\_\_\_

(b)Classify the following fuel either primary or secondary fuel.

- (i) Coke \_\_\_\_\_
- (ii)Crude oil \_\_\_\_\_
- (iii)Kerosene \_\_\_\_\_
- (iv)Natural gas \_\_\_\_\_

8. (a)What properties of hydrogen gas that made it to be used in the following?

i. As a fuel

\_\_\_\_\_

ii. To fill weather

balloons \_\_\_\_\_

iii. Manufacture of hydrochloric acid

\_\_\_\_\_

iv. iv. Manufacture of margarine

\_\_\_\_\_

(b) ) Environmental pollution in most of rural areas in Tanzania is caused by using charcoal and firewood as a fuel. What will be the two alternative source of energy, they supposed to use for environmental conservation? (give reason for each)

- i. \_\_\_\_\_
- ii \_\_\_\_\_

(c) Why fossil fuels are referred to as non-renewable energy resources? (Give two reasons)

- i. \_\_\_\_\_
- ii. \_\_\_\_\_

9. (a)You are provided with the following atoms, for each fill the information below:-

(i)  $^{35.5}\text{Cl}$

protons = \_\_\_\_\_

Neutrons= \_\_\_\_\_

Electrons= \_\_\_\_\_

(ii)  $^1\text{H}$   
protons = \_\_\_\_\_  
Neutrons = \_\_\_\_\_  
Electrons = \_\_\_\_\_

(b) Define the following

i. Atom \_\_\_\_\_  
ii. Energy \_\_\_\_\_  
iii. Atomic number \_\_\_\_\_  
iv. Isotopes \_\_\_\_\_

### SECTION C (15 MARKS)

10(a)

i. What do you understand by the word “Relative atomic mass”?

ii). Carbon has main isotopes,  $^{12}_6\text{C}$  and  $^{14}_6\text{C}$  with relative abundances 98.89% and 1.11% respectively. Calculate the relative atomic mass of Carbon.

b) i. Draw a diagram of laboratory preparation of oxygen gas from hydrogen peroxide and manganese IV oxide

(ii) Write the word equation for the reaction above (a)i

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c) Answer the following questions with reference to the first 20 elements of the periodic table

i. Give the chemical symbol of element having:

a) The smallest atomic size \_\_\_\_\_

b) The largest atomic size \_\_\_\_\_

ii. Identify the element which are:

a) Metals having three shells of electrons each \_\_\_\_\_

b) Metals having 1 electron in the valence shell \_\_\_\_\_

c) Noble gases \_\_\_\_\_