

Section A (20 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 space provided.

i). Chemistry is a branch is the branch of science which deals with:

- | | | |
|--------------------------|-------------------------|---|
| A. Composition of matter | C. Properties of matter | (|
| B. Structure of matter | |) |
| | D. Both of the above | |

ii). When hydrogen is prepared in the laboratory, it is collected by :

- | | |
|------------------------------------|---|
| A. Down ward displacement of air | (|
| B. Down ward displacement of water |) |
| C. Upward displacement of air | |
| D. Upward displacement of water | |

iii). The IUPAC name of sulphuric acid is?

- | | | |
|------------------------|-----------------------------|---|
| A. Sulphuric (VI) acid | C. Hydrochloric acid | (|
| B. Sulphuric acid | |) |
| | D. Sulphuric sulphuric acid | |

iv). The mixture of ammonium chloride and sodium chloride can be prepared by :

- | | | |
|----------------------------|------------------|---|
| A. Fractional distillation | C. Evaporation | (|
| B. Sublimation | |) |
| | D. Magnetization | |

v). Valency of an element with atomic number 10 is?

- | | | |
|------|------|---|
| A. 2 | C. 3 | (|
| B. 1 | |) |
| | D. 0 | |

vi). The part of Bunsen burner which controls the amount of air is called?

- | | |
|-------------|-----------|
| A. Air hole | C. Jet |
| B. Barrel | () |
| | D. Collar |

vii). Cobalt chloride paper or crystal when used to test for the presence of water. The colour change of the cobalt chloride is :

- | | | |
|-----------------|-----------------------|---|
| A. Blue to pink | C. Blue to Yellow | (|
| B. Pink to blue | |) |
| | D. Pink to colourless | |

viii). Which of the following is a renewable source of energy

- | | | |
|--------------|----------------|---|
| A. Petroleum | C. Natural gas | (|
| B. Coal | |) |

v).....are example of group zero or VIII elements.

Section B (80 marks)

Answer all questions in this section

3. a). Form two students prepared oxygen gas in the laboratory using hydrogen peroxide solution (H_2O_2), she added manganese IV oxide (MnO_2) to the solution in the flat bottomed flask and heated the mixture. After few seconds she managed to collect 50cm^3 of oxygen gas . Use information above to answer the questions below.
- Which of the two compounds student used in the above experiment.
.....
 - Write the importance of manganese (IV) oxide in the above experiment?
.....
 - Write the equation for the laboratory preparation of oxygen using the compounds above.....
.....
 - How oxygen gas was collected in the laboratory ? give a method of collection and reason for:
Method use
Reason for the method.....
- b). Give the chemical test for oxygen gas.....
.....
4. a). Differentiate first aid and first aid kit
.....
.....
.....
- b). In which aspect is first aid important to human being? Give four reasons
-
 -
 -
 -
- c). Write down any four components of the first aid kit and state their uses as guided in the table below.

First aid kit component	Use
Example. Pain killer	To reduce pain
i).	
ii)	

iii)	
iv).	

5. a). Draw a well diagram and state the corresponding meaning of the following warning signs.

Name	Drawing	Meaning
i). Oxidant		
ii). Harmful		
iii). Corrosive		

- b). Mention four heat sources used in the laboratory

- i).
- ii).
- iii).
- iv).

6. a). Define the following terms

- i). Element.....
-
- ii). Compound
-
- iii). Mixture

-
- b). Identify whether the following is a physical or chemical change
- Burning of paper
 - Melting of ice cream
 - Lighting match
 - Souring of milk
- c). Suggest the suitable method to separate each of the following mixture
- Ethanol and water
 - Water and kerosene.....
 - Salt and Water

7. The diagram below is a blank periodic table. Use the letters A,B and C to answer the questions after table.

I							VIII
	II	III	IV	V	VI	VII	

- Write A in the table for Group I and period 3
 - Write B in the table for group III period 2
 - Write C in the table for group VII period 2
 - Give the actual name for element A,B and C
- Write the electronic configuration of element A and C
.....
- Write the formula when element A combine with element C using their actual symbols
- Draw a well labeled diagram for a Bunsen burner

Luminous flame	Non luminous flame

b). Write four properties of luminous flame and non-luminous flame

c). Why Bunsen burner is suitable source of heat in the laboratory

.....

8. What is the molecular formula of the compound made by 15.8% carbon and 84.2% sulphur if the molecular mass of the compound 76

.....

- b). Calculate the oxidation state of the following underlined elements

a). Na ₃ <u>P</u> O ₄	b). <u>N</u> H ₄ ⁺	c). <u>S</u> O ₃ ²⁻
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c). Write the IUPAC name of each of the following compounds

i). MgI_2

ii). CCl_4

iii). PCl_5