**NAME………………………………………………………………ADM………………….CLASS………………**

**MID TERM 2 EXAM – 2024**

**CHEMISTRY**

**Time 11/2 hrs**

***INSTRUCTIONS: - Answer all questions on the space provided***

* ***All working must be Cleary shown where necessary***
1. The diagram below shows part of non - luminous flame of the Bunsen burner. Study it to answer questions that follows.



1. Name the parts of the flame labeled as; (3mks)

X………………………………………………

Y……………………………………………….

Z……………………………………………….

1. Which part of the flame above is the hottest? Explain. (2mks)
2. A non – luminous flame is preferred for heating. Explain. (1mks)
3. Name the other type of flame and condition under which that flame is produced. (1mk)
4. a) State four laboratory rules. (4mks)

b) Name three frequently abused drugs. (3mks)

1. a) The set – up below represents the apparatus that may be used to separate two miscible liquids A and B whose boiling point are 800c and 1100c respectively.



1. Name C and D (2mks)
2. What is the purpose of thermometer? (1mk)
3. Which liquid was collected first? Explain (2mks)
4. Name the methods of separation of mixture. (1mk)
5. Name two mixture that can be separated using above methods of separation. (2mks)
6. Name the above method of mixture. (1mk)

b) The spots in the diagram below represents a paper chromatogram for the three l brands of soda that contains unwanted food additives.

A B C D

A

 ● ● ●

 ●

 ●

● ●

 ● ● ● ● ●

The results showed presence of unwanted food additives in B and C only. On the

1. Label the baseline or origin and the solvent front. (2mks)
2. Circle the spots which showed unwanted food additives. (2mks)
3. Which food additive was pure? Explain. (2mks)
4. a) List the three states of matter. (3mks)

b) State the Kinetic theory of matter. (1mks)

c) The graph below shows the heating curves obtained when solid X and solid Y were heated to boiling point.



i) Which of the two liquids was pure? Explain. (2mks)

ii) What would be the effect of adding an impurity to the boiling point of a substance? (1mk)

d)Name the elements present in the following compounds

i) Zinc sulphide. (1mk)

ii) Magnesium oxide. (1mk)

iii)Potasium iodide. (1mk)

1. a) Draw a set –up of apparatus that can be used to separate iodine and sand. (3mks)

b) Table below shows PH values of various solutions

|  |  |
| --- | --- |
| Solution  | PH |
| A BCD | 17149 |

Classify the solutions in the table above as

1. Strong acid………………………………………………..
2. Weak base…………………………………………………
3. Strong base……………………………………………….
4. Neutral…………………………………………………….

c) Name two examples of mineral acid one organic acid. (2mks)

i) Mineral acid (2mks)

ii) Organic acids (1mks)