CHEMISTRY
FORM 1
OPENER EXAMINATION: TERM 2 2024

MARKING SCHEME

INSTRUCTIONS.

- Answer all the questions in the spaces provided.

1. a. What is a drug? (1mk)
   - ***Its a natural or manmade substance that when taken changes the normal body functioning.***

   b. Give two drugs that are commonly abused. (2mks)
   - ***Alcohol***
   - ***Miraa***
   - ***Tobacco***

   c) List three harmful effects of drug abuse. (3mks)
   - ***Hallucinations***
   - ***Depression***
   - ***Dependency***
   - ***Addiction***
   - ***Disease like cancer***

2. Define the term chemistry. (1mk)
   - ***Science that deals in the structure, competition of properties of water.***

3. Study the figure below and answer the questions.

   a) What is the name given to the above flame? (1mk)
   - ***Non-luminous flame***

   b) Indicate on the diagram the hottest region. (1mk)
   - ***The pale blue zone must be indicated***

   c) Label the part of the flame that contains unburnt gases. (1mk)
   - ***Almost colourless region must be indicated.***

4. a. What's matter? (1mk)
   - ***It is anything that has mass and occupies space.***

   b. State the three states of matter. (1mk)
   - ***Solids liquids***
   - ***Gases***

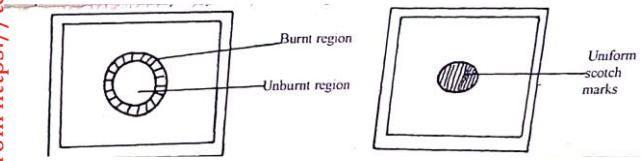
5. a. Define a flame. (1mk)
- ***A mass of burning gases.***

   b. State three differences between luminous and non-luminous flame. (3mks)

Luminous	**Non-luminous**
Softy	***Not sooty***
Quiet	***Noisy***

Large and unsteadily	***Small and steady***
Has four regions	***Has three***
Yellow	***Blue***

6. The diagram below shows the appearance of two pieces of paper placed in different parts of a non-luminous flame of a Bunsen burner and moved quickly before they caught fire.



a) What do the experiments show about the outer region of the flame? (1mk)

- ***Hottest part of the flame***

b) From the above experiments, which part of the flame is better to use for heating. Give reason (2mks)

- ***The outer region is made of complete burnt gases thus the hottest part of the flame.***

7. Mr. Nyakundi went to a doctor who sent him to a pharmacy to pick some drugs. The pharmacists wrote on the medicine packaging 2x3.
   a) Clearly state what 2x3 meant. (2mks)

- ***2- tablets time 3 a day of 24hours.***

   b) State two reasons why its important to adhere to doctor's prescription. (2mks)

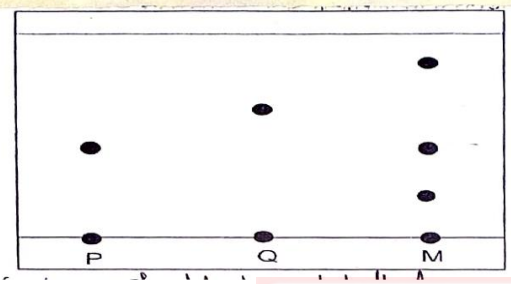
- ***To prevent overdose***
- ***To prevent underdosing***

8. State five laboratory rules. (5mks)

9. Identify three advantages why laboratory apparatus should be made of glass. (3mks)
   - ***They are transparent***
   - ***Unreactive to chemicals***
   - ***Withstand high temperatures during heating.***
10. Give four differences between temporary physical change and permanent change. (4mks)

Temporary physical change	***Permanent change***
No change in mass	***Change in mass***
Revisable	***Irreversible***
No new substance formed	***New substance is formed***
Accompanied by low changes.	***Accompanied by great heat changes***

11. Spots of pure payment D and Q and a mixture M were placed on a filter paper and allowed to dry. The paper was then dropped in a solvent. The results obtained were as shown on the paper chromatogram below.



a) Label the base line and solvent front. (2mks)
- ***Should be labelled***

b) Circle the substances M made of. (1mk)
- ***Circle p***

c) Which of the pure pigments was a component of M. Explain? (2mks)
- ***P- moving the same distance with the pure substance.***

d) Name a solvent that is used in paper chromatography. (1mk)
- ***Propanon***

e) Why is water not a suitable solvent in paper chromatography? (1mk)
-

12. Name the elements present in the following compound.

a) Sodium nitride. (1mk)
- ***Sodium***
- ***Nitrogen***

b) Magnesium hydrogen carbonate. (2mks)
- ***Magnesium***
- ***Hydrogen***
- ***Carbon***
- ***Oxygen***

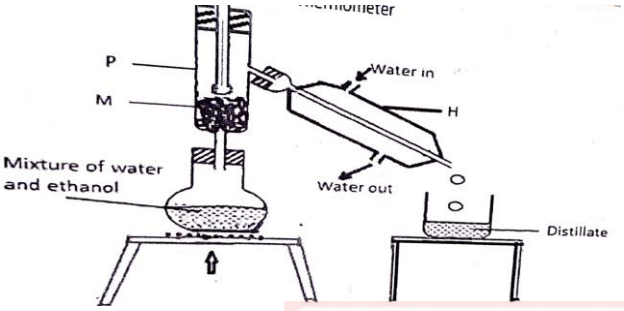
c) Copper oxide. (1mk)
- ***Copper***

- ***Oxygen***

13. Define the following terms: (2mks)
    i. Atom
    - ***Smallest particle of an element which can take part in a chemical change.***

    ii. Mixture
    - ***Substance made of two or more substances which are physically combuned and can be separated by physical means.***

14. A form one student set up the following apparatus to separate a mixture of water and ethanol. Study it and answer the following questions.



a) Identify:
    i. Identify 2 mistakes in the arrangement of apparatus. (2mks)
    - ***Water in and water out.***

    ii. Identify the part labeled M and state its function. (2mks)
    - ***Glass bead – increase the surface area for condensation.***

b) Name the method of separation being used in this experiment. (1mk)
    - ***Fractional distillation.***

    ii.Identify apparatus P, and H. (3mks)
    - ***P – fractionating column***
    - ***H- lie big condenser***

c) What property of water and ethanol makes it possible to separate them from their mixture? (1mk)
    - ***Melting point and boiling point***

15. State the method that can be used to separate the following mixtures. (4mks)

Mixture	**Method**
Salt and sugar	
Oil and water	
Ethanol and water	

Xanthophylls and chlorophyll	

16. Write a word equation for the reaction between. (3mks)

i. Carbon and oxygen ⟶ ***carbon (IV) oxide***

ii. Sodium and sulphur ⟶ ***sodium sulphide***

iii. Copper and chlorine ⟶ ***copper chloride***

17. State the method that can be used to separate the following mixtures. (4mks)

Mixture	**Method**
Oil and water	***Separating funnel***
Ethanol and water	***Fractional distration***
Xanthophyll and chlorophyll	***Chromatography***

18. Give the chemical symbols for the following elements. (4mks)

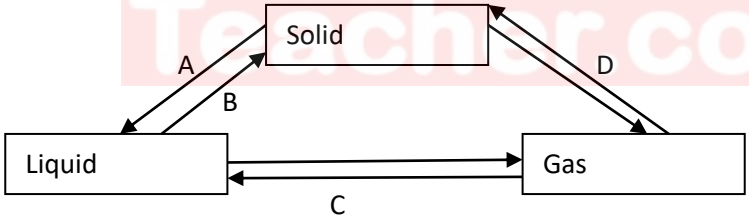
a) Potassium - ***K***

b) Zinc - ***Zn***

c) Iron -***Fe***

d) Oxygen - ***O***

19. The scheme below shows the behavior of solid W when heated.



Name the process. (4mks)

A – ***Melting***

B – ***freezing***

C – ***Condensation***

D- ***Preposition***