

OPENER EXAMINATION: TERM 1 2024

# MARKING SCHEME

## FORM 2 CHEMISTRY

TIME: 2Hrs 30 min

1. a. (2mk)  
Cocaine  
bang

b. (3mks)  
Addiction  
Hallucination  
death

2. a. (1mk)

Study of composition, properties and reaction that matter undergoes

b. (2mks)  
A career subject  
One gains scientific skills  
Knowledge learnt improves standards of living.

3. i)

- a. round bottomed flask – heating substances (1mk)
- b. Measuring cylinder/Measuring volume of liquids (1mk)
- c. Spatula/Scooping solids/chemicals from containers (1mk)

ii) Burette/syringe/beaker (1mk any one correct) 1mk

(Reject apparatus that can't measure accurate volumes)

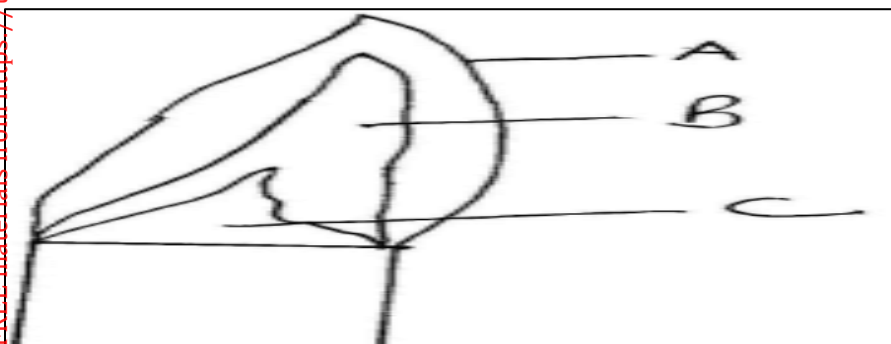
4. (4mks) [Download this and other FREE revision materials from https://teacher.co.ke/notes](https://teacher.co.ke/notes)

- Easy to clean
- Transparent
- Unreactive
- Modelled into many shapes

Recyclable (Any 4 correct 1mk each)

5. a. mass of burning gas (1mk)

b.



c. (1mk)

Non luminous

d. (2mks)

To prevent fire accidents in the lab

6. a. (2mks)

consist of two or more substances put together and in which the individual components forming the mixture retain their physical and chemical properties.

b. (3mks)

- (i) Sand and water.....decantation.....
- (ii) Petroleum fom crude oil.....fractional distillation.....
- (iii)Oil from groundnuts seeds.....solvent extraction.....

7. a.

**Is an inorganic solvent that does not dissolves oil ;**

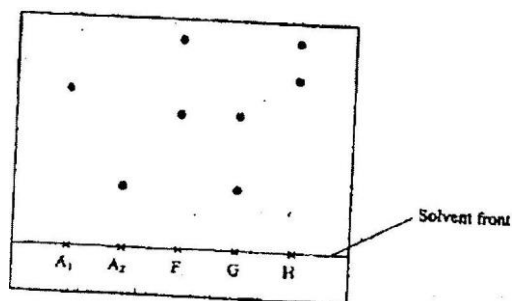
(2mks)

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b. propanone

(1mk)

8. .



a. G .

(1mk)

b. H

(1mk)

9.

a.

(2 mks)

solid carbon (IV) oxide, anhydrous iron (III) chloride;

b.

(2 mks)

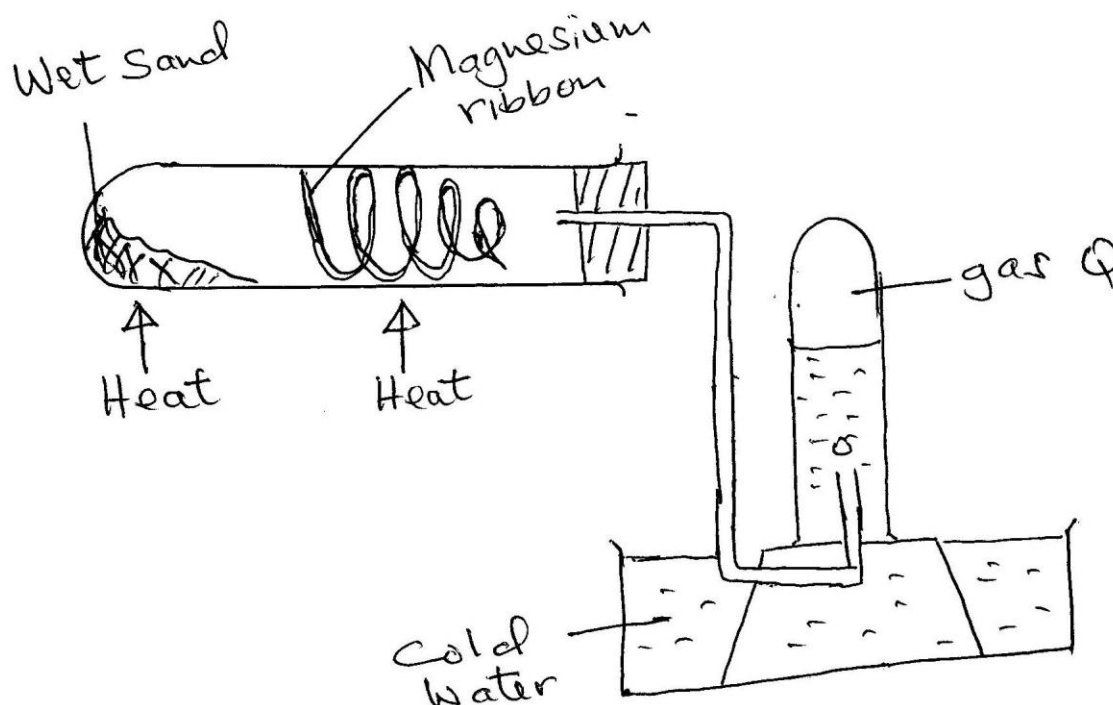
zinc oxide, nitric (V) acid,

c.

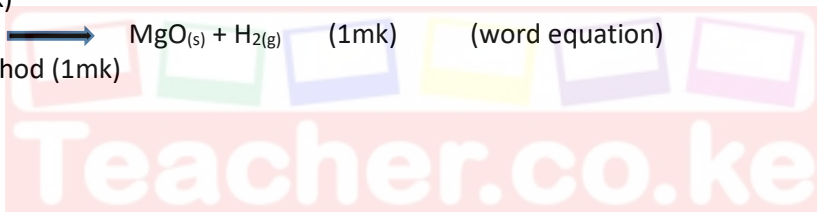
(1 mk)

Sodium carbonate + nitric (v) acid  $\longrightarrow$  sodium nitrate + water + carbon (IV) oxide

10.



- i) to generate steam for – driving air  $\frac{1}{2}$  mk from apparatus; react with Magnesium  $\frac{1}{2}$  mk  
 ii) Remove layer of Magnesium oxide to allow Magnesium to combine with steam (1mk)  
 b) Hydrogen (1mk)  
 c)  $\text{Mg}_{(s)} + \text{H}_2\text{O}_{(g)} \longrightarrow \text{MgO}_{(s)} + \text{H}_{2(g)}$  (1mk) (word equation)  
 d) Over water method (1mk)



11.

(4 mks)

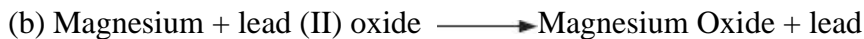
- a. Common salt and water. Simple distillation
- b. Coloured dyes in ethanol. chromatography
- c. Ammonium chloride and sodium chloride. sublimation
- d. Ethanol and water. fractional distillation

12.

- a. A liquid suspected to be water turns white anhydrous Copper (II) sulphate to blue hydrated copper (II) Sulphate turns blue Cobalt (II) chloride paper to pink
- b. The purity of water can be tested by checking whether it boils at 100 oC at sea level

13. The product from stinging nettle plant is acidic hence aqueous ammonia solution being basic neutralizes the acidic product

14. Magnesium is more reactive than lead hence has a higher affinity of oxygen. It reduces lead (II) oxide to lead. Lead is less reactive than Magnesium thus can not displace oxygen in Magnesium Oxide.



c) Magnesium

(ii) Lead

(iii) Redox reaction

15. Classify the following as either physical or chemical changes. (5 mks)

- Freezing of beer ; physical;
- Rusting of iron; chemical
- Heating of glass until it melts; physical
- Burning a candle; physical
- Heating copper (II) nitrate; chemical

16.

- k (1mk)
- (2mrks)
  - H
  - I

17.

Solution	Blue litmus paper	Indicator W
Distilled water	.....BLUE.....	Colourless
Calcium hydroxide	Blue	Pink
Nitric acid	.....RED.....	Colourless

- (2mrks)
- W** PHENOLPHTHALEIN (1mk)

18.

- (1mk)  
Zinc + Hydrochloric acid  $\longrightarrow$  Zinc chloride + hydrogen gas
- Concentrated sulphuric acid (1mk)
- Copper is least reactive THAN HYDROGEN (1mk)

19. i) Cu ii) Fe iii) Ca iv) K v) Zn

20.



- f. 2mrks  
oil refining  
Water purification  
Production of alcoholic beverages

