PRESIDENT'S OFFICE

REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

MUFINDI DISTRICT COUNCIL

FORM TWO MID- TERM EXAMINATION 2021

MAKING SCHEME CHEMISTRY

SECTION A: 15 MARKS

1. 1 mark @ 5 Marks

Questions	i	ii	iii	iv	v	vi	vii	viii	ix	x
Answers	D	B	C	D	B	C	C	B	B	D

2. 1 mark @ 5 Marks

Questions	i	ii	iii	iv	v
Answers	D	E	F	G	B

SECTION B: 70 MARKS

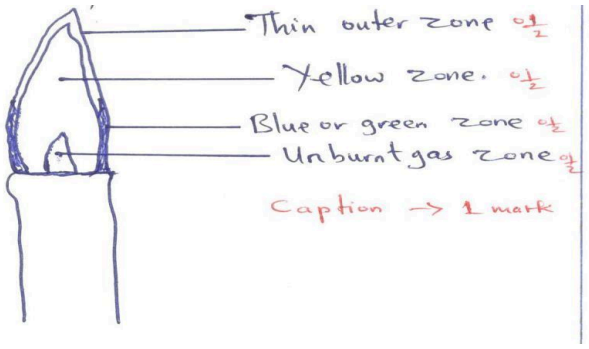
3. a) i. Because it is yellow flame that easily brightens a room **02 marks**

ii. It is not very hot; hence it is safer for lighting **02 marks**

b) i. It is very hot **01 ½ marks**

ii. It is noisy **01 ½ marks**

c)



(Total 10 Marks)

4. i. Sublimate is a solid that forms after a vapour cools. **WHILE** Sublimation is a process where by a solid changes state directly to gas usually on heating. **02 marks**

ii. Filtrate is a liquid obtained through the filtration process. **WHILE** Residue is a solid obtained through filtration process. **02 marks**

iii. Suspension is a heterogeneous mixture of liquid and fine particles of a solid. **WHILE** Emulsion is a mixture of liquids that do not completely mix with each other.

02 marks

iv. Saturated solution is the one that can dissolve no more solute at a given temperature. **WHILE** Super saturated solution is the one that temporarily holds more solute than the saturated solution at a given temperature. **02 marks**

v. Chromatograph is the process of separating mixtures using a moving solvent on materials that absorb the solvent. **WHILE** Fractional distillation is a method of separating two or more liquids with different boiling points. **02 marks**

(Total 10 Marks)

5. a)
   - i. Crucible use to heat substances to very high temperature **02 marks**
   - ii. Evaporating dish use to heat and evaporate liquids and solutions **02 marks**
   - iii. Mortar and pestle use for grinding **02 marks**
   - **iv.** Beehive shelf used to support a receiving jar or delivery tube. **any three points**

b)
   - i. Glass is easy to clean **01 mark**
   - ii. Glass is transparent material and we can see through it clearly **01 mark**
   - iii. It does not react with most of the chemicals used in experiments **01 mark**
   - iv. Glass with stands high temperature **01 mark**

(**Total 10 Marks)**

6.

a) If the melting temperature is 0˚c and the boiling temperature 100˚c (at sea level) then the water is pure. **02 marks**

b) i. Aluminum sulphate helps to remove even smaller particles that pass through the course sand as it causes the impurities to clump together and sink to the bottom of container **02 marks**

ii. Chlorine helps to kill harmful microorganisms eg. Bacteria. **02 marks**

c) i. Helps to kill harmful microorganisms. eg. Bacterial **01 mark**

ii. Helps to remove human made pollutants **01 mark**

iii. Helps to remove heavy metals like lead and mercury in water **01 mark**

iv. Helps to remove odour from water **01 mark**

v. Helps to remove particles such as dusts, sand and leaves

vi. Help to get suitable water for use in the laboratory and medical treatment to ensure accurate results. **Any 4 points**

(Total 10 Marks)

7.

i. Hydrogen **01 mark**

ii. $Zn_{(s)} + 2HCl_{(aq)} \longrightarrow ZnCl_{2(aq)} + H_{2(g)}$ **02 marks**

iii. This is because nitric acid is a strong oxidizing agent, and oxidizes hydrogen gas to convert it into the water. **02 marks**

iv. – Magnesium **0 ½ marks**

- Iron **0 ½ marks**

v. - Used to produce oxy-hydrogen flame **01 mark**
   - Used in manufacture of hydrochloric acid **01 mark**
   - Used in rockets as fuel **01 mark**

- Used to fill weather bullous **01 mark**
- Used in manufacture of margarine
- Used in manufacture of ammonia **any 4 points**

(Total 10 Marks)

8. a) Is the smallest particle of an element that has all chemical properties of that element **02 marks**

b) i. Protons **01 mark**

ii. Neutrons **01 mark**

c) i. Atomic number = electron number

10 = electro number **01 mark**

❖ It has 10 electrons

ii. Electron number = proton number

10 = proton number **01 mark**

❖ It has 10 protons

iii. A = Z + N

21 = 10 + N

N = 21 – 10 **02 marks**

N = 11

❖ It has 11 neutrons

iv. $1021Ne$ **01 mark**

v. $10P\ 11n$

01 mark

(Total 10 Marks)

9. a)

i. Heat **01 mark**

ii. Oxygen **01 mark**

iii. Fuel **01 mark**

b) This is because water is denser than flammable liquids, so the flammable liquids will float over water and the fire continues **01 mark**

c) i. Fine sodium bicarbonate power pressurized by nitrogen **02 marks**

ii. Potassium acetate **02 marks**

iii. Proteins and fluoro – proteins **02 marks**

(Total 10 Marks)

SECTION C: 15 MARKS

10. a)

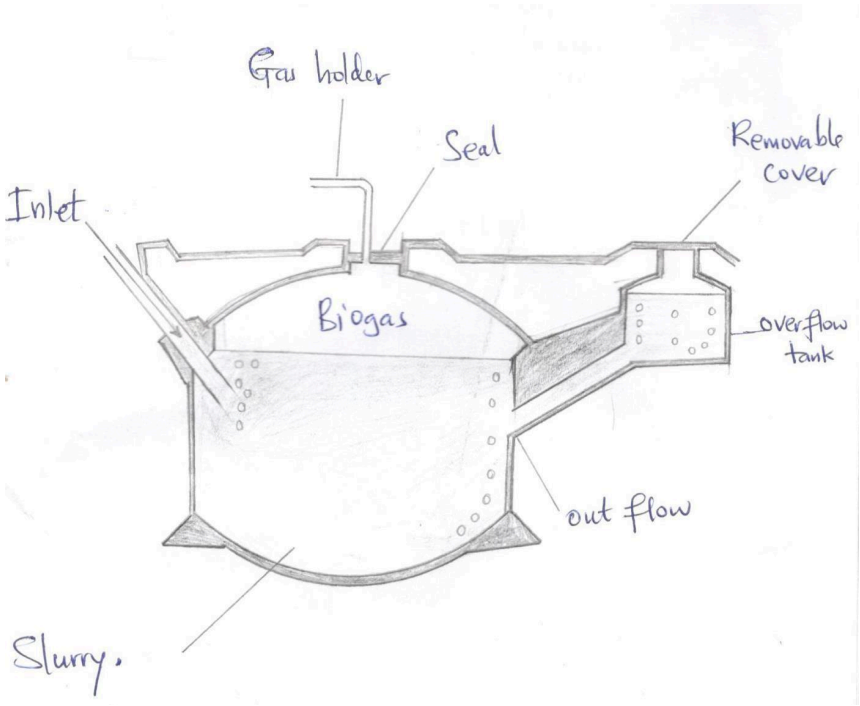
i. Is an airtight container where biogas is produced by decomposition of organic matters **01 ½ marks**

ii. Is a semi liquid mixture, typically of fine particles of manure suspended in water. **01 ½ marks**

b) i. A digester - is a cube shaped container with an inlet **01 ½ marks**

ii. The gas holder - it normally an air proof steel container that cuts off air to the digester and collects the gas generated **01 ½ marks**

c) A DIAGRAM OF A BIOGAS PLANT



Heading - **0 ½ marks**

Labelling - any four parts **01@ = 4 marks**

Caption - **0 ½ marks**

d) i. It is cheap source of energy **01 mark**

ii. It keeps environment clean **01 mark**

iii. It is renewable source of energy **01 mark**

iv. The use of this technology is a source of employment **01 mark**

v. It burns readly. **any four points**

(Total 15 marks)