

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

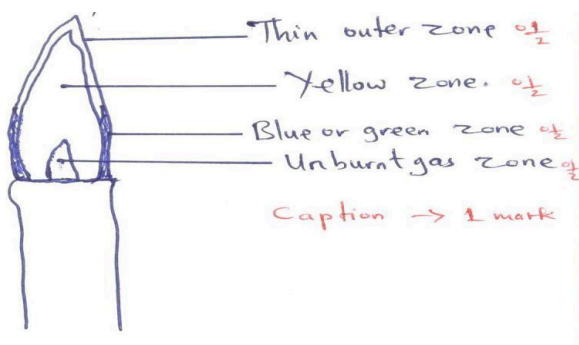
Questions	i	ii	iii	iv	v	vi	vii	viii	ix	x
Answers	D	B	C	D	B	C	C	B	B	D

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 coarse 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 balloons
- Used in manufacture of margarine
- Used in manufacture of ammonia

01 mark

**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 = electron number

01 mark

❖ It has 10 electrons

ii. Electron number = proton number

$$10 = \text{proton number}$$

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. ${}_{10}^{21}\text{Ne}$

01

mark

v. ${}_{10}^{10}\text{P}$ ${}_{11}^{11}\text{n}$

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 powder pressurized by nitrogen

02 marks

ii. Potassium acetate

02 marks

iii. Proteins and fluoro – proteins

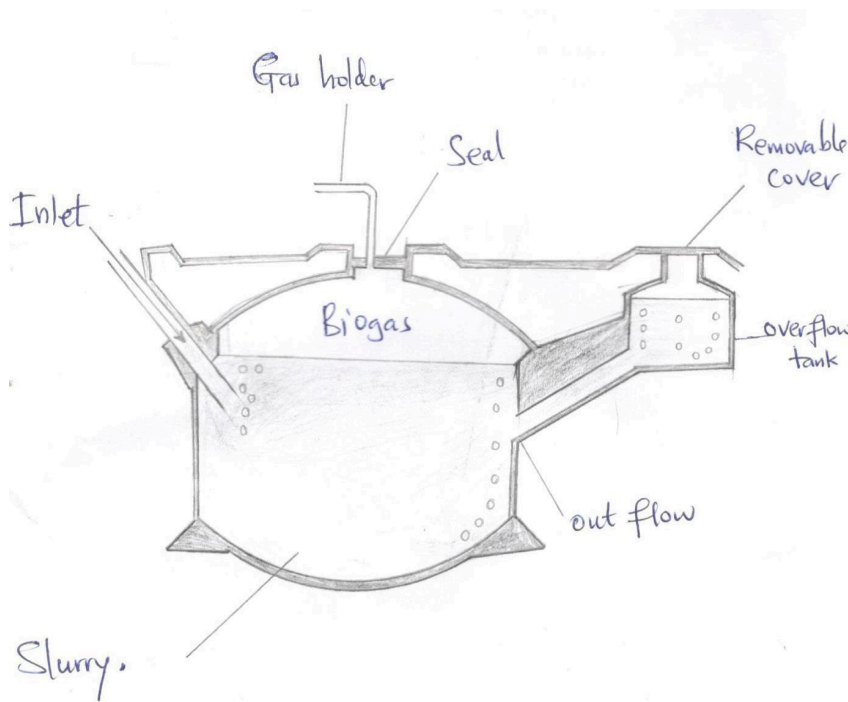
02 marks

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 readily. **any four points**

(Total 15 marks)