

BABATI TOWN COUNCIL
FORM TWO PRE-MOCK ASSESSMENT-MAY 2023
CHEMISTRY MARKING SCHEME

1.

i	Ii	iii	iv	v	vi	vii	viii	Ix	x
B	D	B	A	B	C	C	C	B	A

01Mark@=10Marks

2.

I	ii	Iii	iv	V
C	D	B	E	A

01Mark@=05Marks

3. (a)

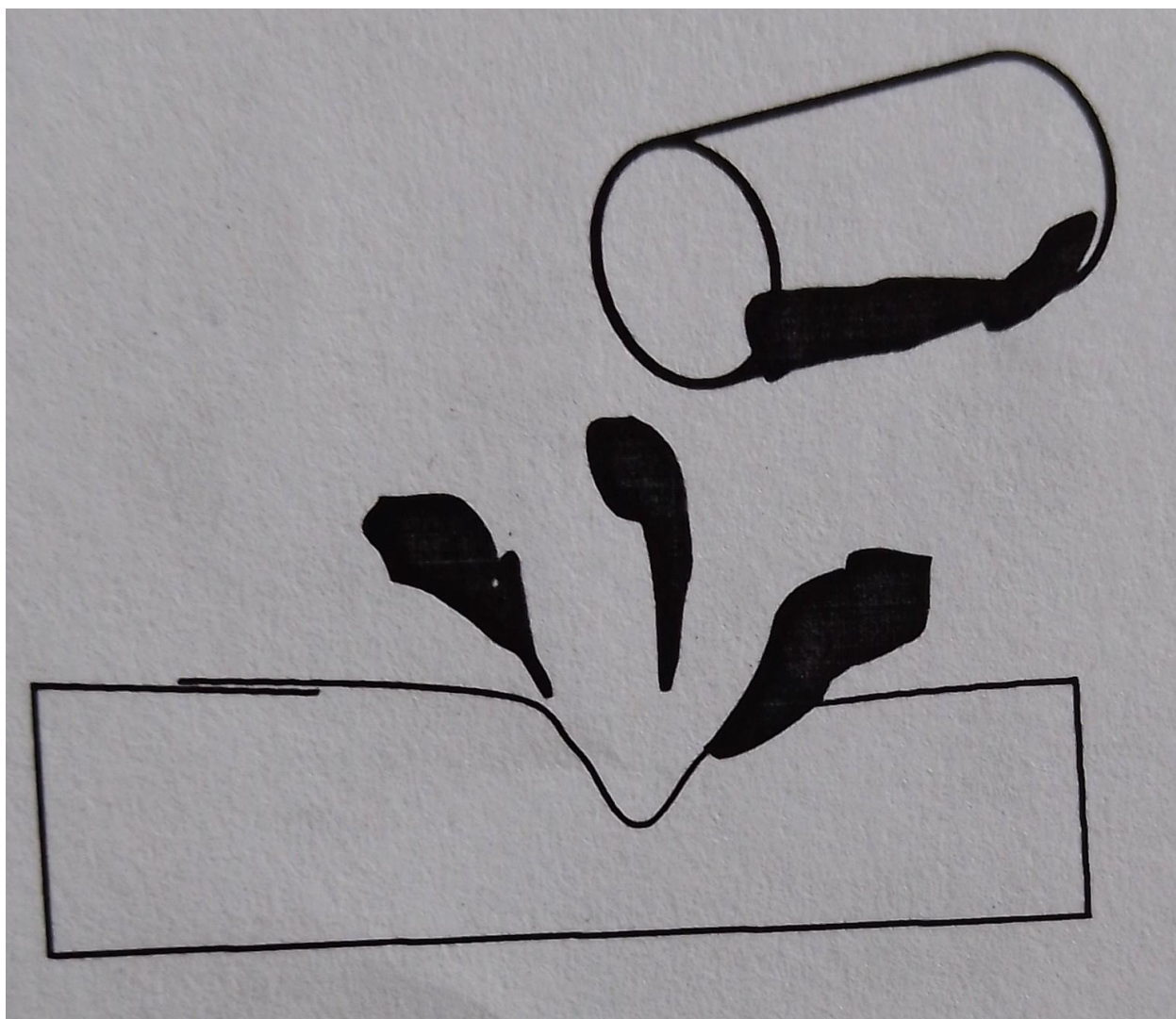
- i. The glowing splint re-light up in the gas jar of oxygen
- ii. Iron nail develop the reddish-brown coating of rust
- iii. The glowing splint produces POP SOUND in hydrogen gas jar
- iv. Physical change

01mark @=04Marks

(b).

- i. Corrosive **01½Mark**

- ii. Symbol of corrosive



01½Mark

iii.

- Prevent the occurrence of accident in the laboratory /To ensure safety in the laboratory
- Prevent accidental use of wrong chemicals
- Prevent getting the wrong results due to wrong chemicals

01Mark @=03Marks

4. (a)

i. Class B

ii. Class C

iii. Class A

01Mark @=03Marks

(b).i. In water there is oxygen which supports combustion **02Marks**

ii. Carbon dioxide extinguisher is not used to extinguish fire from the third go down because it may not be able to displace enough oxygen to successfully put the fire out **02Marks**

iii. Painting, Oiling, Galvanization, Tin plating, Use of Silica gel, Sacrificial anode

Any three 01Mark@=03Marks

5. (a).i. The constituent of elements cannot be separated by physical methods but can be separated by chemical methods

ii. Compound always has definite /fixed composition by mass of the elements

iii. Chemical changes are involved when new substance (compound) are formed

iv. The properties of compounds are very different from those of the individual elements

v. Components cannot be seen separately

01Mark@=05Marks

(b). P- Fractional distillation

Q- Sublimation

R- Layer separation

S- Evaporation

T- Picking

01Mark@=05Marks

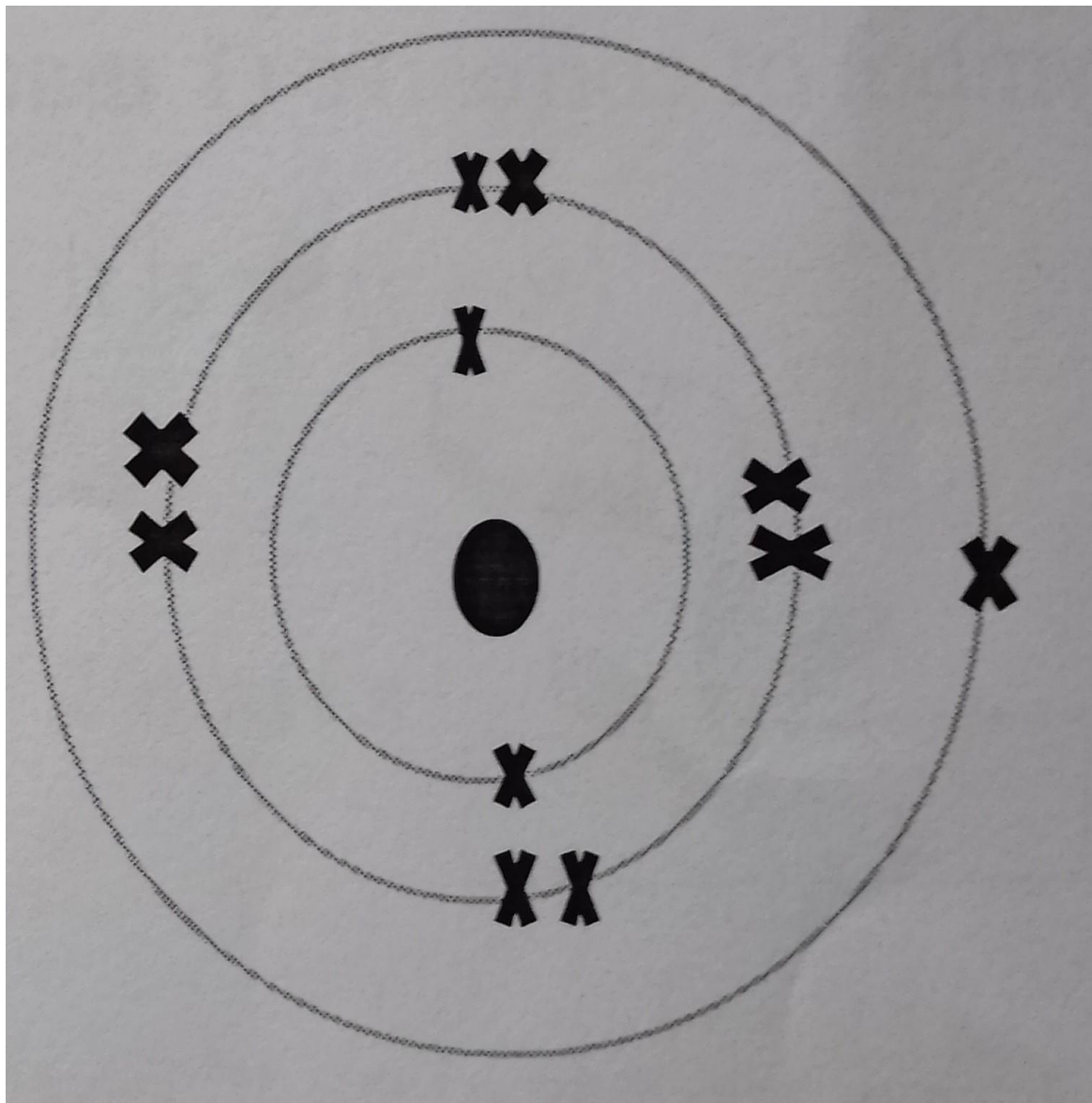
6. (a). i. The metal X is sodium **01Mark**

ii. The product M is sodium oxide **02Marks**

iii. The group of metal X is 1 **01Mark**

The period of metal X is 3 **01Mark**

i.v. Atomic structure



02Mark

v. 2:8:1 01Mark

(b). The modern periodic law states

"The properties of elements are periodic function of their atomic numbers" **02Marks**

7. (a).

CHEMICAL CHANGE	PHYSICAL CHANGE
Affect both chemical and physical properties of matter including its composition	Affect only physical properties of matter
Are permanent changes	Are temporary changes
Are irreversible which means the original substance cannot be recovered	Are reversible which means the original substance can be recovered
The molecular composition of a substance completely change	The molecules are rearranged while their actual composition remains the same
Energy is produced or absorbed	No energy is produced or absorbed

Any four points 01Mark@=04Marks

(b). i.

SUSPENSION	SOLUTION
Heterogeneous mixture	Homogenous mixture
Opaque /not clear	Transparent / clear
Solute particles settle if the suspension is un disturbed	Solute particles completely dissolved in a solvent
Components can be separated by filtration	Components can be separated by evaporation

Any three points 01Mark@=03Marks

(b). ii.

- Reduce pain
- Prevent permanent disability
- Shorten recovery time
- Prevent the victim's condition from getting worse
- Reduce the likelihood of death

Any three points 01Mark@=03Marks

8. (a).

- i. Atoms can be created or destroyed or split by means of nuclear reactions
- ii. Some atoms have atoms of more than one kind which differ slightly in mass, such atoms are called isotopes example carbon has three isotopes known as carbon-12, carbon-13 and carbon-14
- iii. An atom is made up of smaller sub-atomic particles called protons, neutrons and electrons
- iv. Atoms of different elements may combine in many different ratios to form complex compound

01Mark@=04Marks

(b).i.

Solution

Data analysis

Mass number=14

Number of neutrons=7. **00½Mark**

Required

Atomic number

From the formula

Number of protons + Number of neutrons =Mass number. **00½Mark**

Number of proton=Mass number-Number of neutrons. **00½Mark**

Number of proton =14-7. **00½Mark**

Number of proton=7

But, number of protons=atomic number

Atomic number is 7. **00½Mark**

ii. Number of electrons =atomic number. **00½Mark**

Number of electrons is 7 **01Mark**

iii. Nitrogen **01Mark**

iv. 2:5 **01Marks**

9. (a).i. Evaporation- This is the process which involves the change of state of water in the water bodies into vapour /steam

Or

Transpiration- Involves the loose of water from the plant leaves to form vapour or steam.

ii. Condensation-This is the process which involves the change of water vapour /steam back to liquid clouds

iii. Precipitation- This is the process which involves change of clouds into different forms such as rain, snow, hail when falling to the earth.

iv. Collection- This is the process which involves collecting the water falling after precipitation- in various water bodies, example lakes, oceans, rivers

01½Marks@=06Marks

(b). i. It is colourless, odourless and tasteless

ii. It is the only substance that occurs naturally in all three states of matter

iii. Pure water freeze at 0 and boils at 100 at standard pressure

iv. It expands (increase in volume) when it freezes. Ice is therefore less dense than liquid

v. Water dissolves more substance than any other liquid and is usually called universal solvent

vi. It has high surface tension. This means that water molecules have high cohesion forces which tend to clump together the water molecules in drops rather than spread out in a thin film

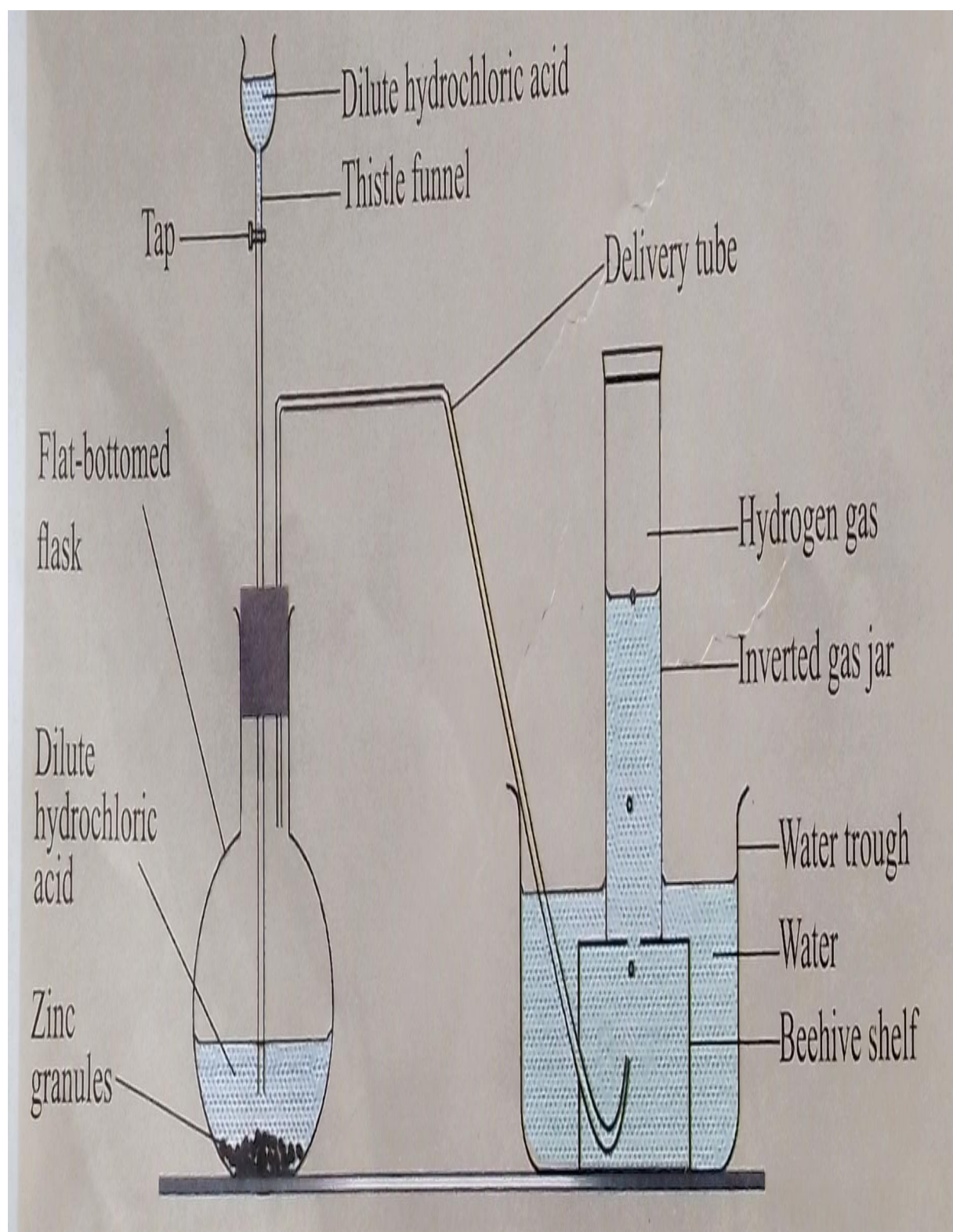
vii. It has high specific heat capacity. This means that it can absorb a lot of heat before begins to get hot.

viii. It is miscible with many liquids. Example of liquid which are miscible with water are ethanol, acetone, acetonitrile and methanol

Any four points 01Mark@=04Marks

10.(a). i. Hydrogen. **01Mark**

(a). ii. Diagram of hydrogen gas **04Marks**



(b).i. The product (hydrogen gas) can be collected by downward displacement of water. **02Marks**

(b). ii.

- -Manufacturing of ammonia -It readily reacts with other substances for example nitrogen
- Manufacturing of hydrochloric acid - It readily reacts with other substance for example chlorine
- Production of oxy-hydrogen flame- It is highly flammable
- Production of water gas- It is highly flammable
- Filling weather balloons- It is lighter than air
- Manufacturing of margarine - It is a reducing agent

Any four points 02Marks@=08Marks