

MARKING SCHEME
TERM 3 2023 OPENER EXAMS
FORM 3 CHEMISTRY

1[a]K:2,8,8,2
 M:2,6

[b]K²⁺
 M²⁻

2[a]the outer part zone {pale blue} has complete combustion hence hotter than the middle part forming the charred part

[b]

- ✓ Hotter than luminous flame
- ✓ Doesn't produce soot

3.

4.[a]sublimation

[b]fractional distillation

[c]solvent extraction

5[a]o absorb carbon {iv} oxide

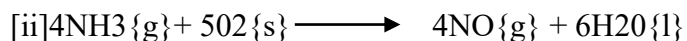
[b]2Cu[s]+ O2Cu0[s]

[c]Neon Argon –they are inert hence they don't react with magnesium

6[a]

- ✓ P-nitrogen
- ✓ Q-hydrogen
- ✓ R-Nitrogen {II} oxide
- ✓ S-water

6[i]Platinum catalyst



[c][i]Ammonium nitrate

[ii]NH₄NO₃=mass of nitrogen x 100

Mass of NH_4NO_3

$$= \frac{28}{80} \times 100$$

$$= 35\%$$

7.

- ✓ Dissolve the mixture in water
- ✓ Filter to obtain sodium chloride as a nitrate and copper [II]oxide as residue
- ✓ Evaporate water to obtain NaCl crystals

8[a] The volume of a fixed mass of a gas is directly proportional to its absolute temperature at a constant pressure

$$[b] \frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2} \quad T_2 = \frac{101.325 \times 133 \times 291}{98.31 \times 146} = 273.3\text{K}$$

9[a]

[i] H-its outermost electron can be lost easily since its far from the nucleus

[ii] B

[iii] D

[iv] A – it has small atomic radius hence the outer electron is strongly held by the protons

[v] – on the grid

[b][i] D G2

[ii] Ionic bond-because there is a complete transfer of electrons from one atom to another

10.

[a] What is isomerism. Isomerism is the existence of a compound in different structure with same molecule formular

[b] Draw and name 2 isomers of butane

11[a]Atoms of the same element with the same chemical properties but different physical properties

[b]M-graphite

N-Diamond

[c]

- ✓ Making of dulls and glass cutter
- ✓ Making of jewels

[d]-Because in bonding 3 electrons are used leaving one electron delocalised

12.

[a]Aluminium – has the most number of electrons [3] compared to others

[b]

[i]	Anode	Cathode
[ii]	Chlorine gas	Lead granule
[iii]	Bromine vapor	magnesium

