OPENER EXAMS 2023
FORM TWO CHEMISTRY
MARKING SCHEME

1.
- ✓ Glass are not affected by heat
- ✓ Glass are not easily corroded by strong acids and bases

2.
- ✓ Carbon {ii} oxide
- ✓ Carbon {iv} oxide

3.
{a} C and E-they have the same number of protons

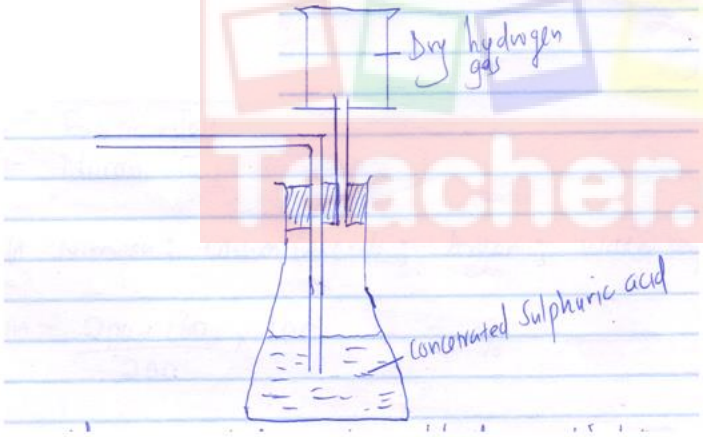
{b} Neutrons = 7 – 3 = 4 neutrons

Electrons = 3 electrons

{c} $\frac{(37 \times 0.25) + (35 \times 0.75)}{1.0} = \frac{35.5}{1.0} = 35.5$

4.a]Zinc granules

{b}



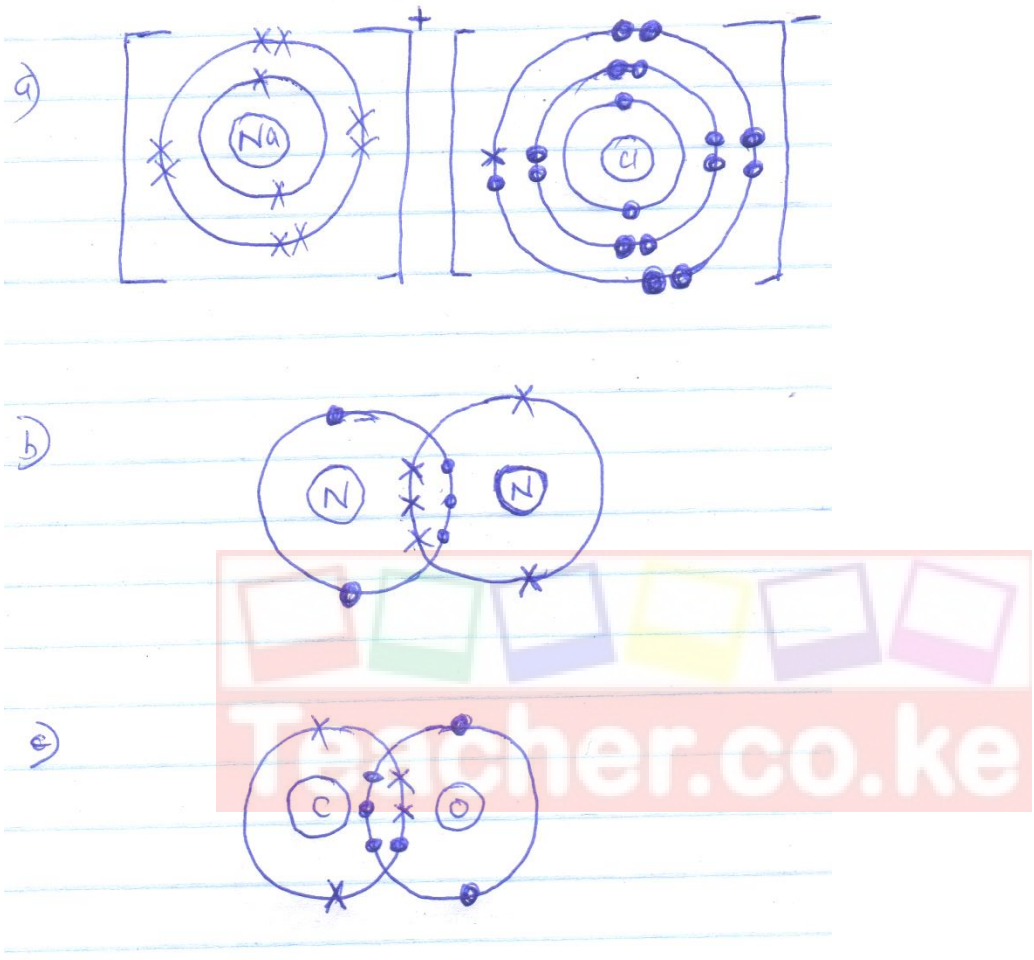
{c}Sodium react explosively with dilute aid

{d]
- ✓ Manufacture of hydrochloric acid

- ✓ Hardening of oil to fat
- ✓ Manufacture of Ammonia through habber process

{e} place of burning spirit in a jar containing hydrogen, it burns with a pp solvent

5.



6.

{i}Double salt
{ii}Acidic salt
{iii}Basic salt
{iv}Normal salt

7. {i}Nitrogen : Carbon {IV} oxide: Argon : Water vapour:

{ii} $\frac{200 - 160}{200} \times 100 = 20\%$

8. {a}

Solution	Colour with universal indicator	Approximate PH	Ions present
Sodium hydroxide	Violet	13 (12 – 14)	
Hydrochloric acid	Red	2 (1 – 3)	

Sodium sulphate	Green	7	Na^{+}, $SO4^{2-}$

{b} –Sodium hydroxide and hydrochloric acid

{c} $CaCO_3\{s\} + 2HCL_{\{aq\}} \longrightarrow CaCl\{_{aq\}} + CO_2 + H_2O\{l\}$

9{a} M: 2.8.3

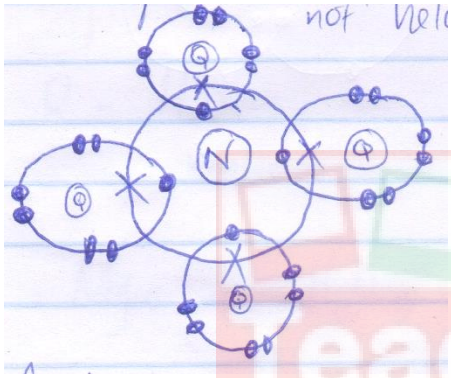
Q: 2.8.7

{b} Q

{c} Period 4

{d}R- has large atomic radius that L hence the outermost electron are not held strongly by the protons

{e}



[f]M has a stronger metallic bond than L due to its high number electrons

{g} $2L + 2H_2O_{\{l\}} \longrightarrow 2LOH[_{aq\}} + H2_{\{g\}}$

{h}Add water to the mixture $R_2\ SO_4$ dissolve while $PbSO_4$ doesn't. Filter to obtain $PbSO_4$ as a residue, evaporate the filtrate to saturation and allow it to cool to form crystals