**TERM TWO**

**CHEM P2 FORM 3**

 MARKING SCHEMES

1. 1.(a) Alkali metals
2. (i) GR2 OR CO2
3. (ii) covalent bond
4. Z – It has 4 energy levels hence its outermost electron is weakly held by the nucleus hence has greater tendency to lose electrons.
5. T2O
6. T2O2
7. It is below P
8. Ionic radius of W is greater that of S. W has an energy 3 level while S has 2 energy levels.

 

2.

1. Mg (s) +2HCl MgCl2(aq) + H2(g)
2. Scale -1
3. Plotting – 1

Curve – 1

1. 150 + 2cm3
2. 30cm3
3. Mg(s) + 2Hcl(aq) MgCl2(aq) + H2(g)

Mole ratio 1:2

If 24,000cm3 = 1 mole

Therefore 300cm3 = 300 x 1

 24,000

 = 0.0125 mole

Moles = mass

 Rmm

Rmm = 0.3

 0.0125

 = 24g

 3.

1. Fractional distillation of liquid air
2. Natural gas

By product of crocking of long chain alkanes

* Carbon (iv) oxide
* Sulphur (iv) oxide
* Dust particles
1. Temp – 500oC

Pressure – 200 atmospheres

1. The compression enhances faster reaction between N2 (g) and H2 (g) hence increases high yield of Ammonia.
2. Iron to reduce wastage
* As a fertilizer
* As a refrigerant
* Softening hard water
* Removal of greasy stains
* Manufacture of hydrazine used in rocket fuels
1. The black CuO turns to a red brown is related to Cu(s) by ammonia
2. P1V1 = P2V2

T1 T2

V2 = 250 x 200 x 273

 293 x 300

= 155.29cm3

1. A salt is a substance found when the Hydrogen ion of an acid is replaced directly or indirectly by a metal or ammonia ion.
2. Deliquescent self – is one which absorbs water for the atmosphere to form a solution.

Hydroscopic salt – is one which absorbs water from the atmosphere but does not form solution.

1. Used as a drying agent.
2. Oxygen gas O2(g0
3. Thermal decomposition
4. Add water to the mixture, Nacl dissolves while CuO does not. Filter and heat the filtrate to dryness then cool the Nacl crystals.
5. Pb2+(aq) + SO42-(aq) PbSO4(s)
6. Pb(NO3)2 + Na2SO4 PbSO4+ 2NaNO3

Moles of Pb: 3.4 = 0.016425

 207

 Mole Ratio Pb: PbSO4

 1:1

 Therefore moles of PbSO4 = 0.16425

 Hence mass = 0.16425 x 303

 (Rmm = 207 + 207 + 32 + 64 = 303)

 Therefore mass = 4.9768g

1. 2methylbustance
2. Pent -2 –ene
3. Propyne
4. Cn H2n+2
5. Alkanes
6. C2H6 = 12 x2 + 6 x1 =30
7. C2 H6

 H H

 I I

 H – C – C – H

 I I

 H H

1. Hydrogen chloride gas
2. Hydrogen gas
3. Soda lime (sodium hydroxide)
4. 2C2H2 (g) + 5O2(g) 4CO2 +2H2O(l)
5. Polymerization
6. CxHy +3O2(g) 1CO2(g) + 1 H2O(l)

Mass 5028g 2.16g

Moles 5.28 = 0.12 2.16 = 0.12

 44 18

 Mola Ratio = 1:1

Hence CxHy C1H2 therefore EF CH2

1. (a) 2Pb(NO3)3(s) 2PbO(s) + 4 No2(g)
2. Oxygen gas
3. Dinitrogen tetra oxide
4. Nitrogen (IV) Oxide is easily liquefied
* H is red brown in colour
* Has a pungent, irritating smell
* It is denser than air
* Is soluble in water
* Is easily liquefied to form yellow N2O4
* Is poisonous
1. Burning Nitrogen Magnesium alit of heat which makes NO2 to dissociate to NO and O2 (g) which supports burning.
2. 4mg(s) + 2NO2(g) 4mgO(s) + N2(g)
3. It should be prepared in a fume chamber or open space.

This is because NO2 (g) is poisonous.

1. Pb(NO3)2(aq) +2Nacl(aq) Pbcl2(s) + 2 NaNO3(aq)

Mole ratio 1;2

Moles = 8.34

 278

Therefore mass = 0.06 x58.5 = 3.51

1. A)
2. Period 4
3. B3+ - 2.8 D- - 2.8.8
4. D
5. C
6. D – Its melting point is – 101oC therefore at room temperature (25oC) it has already melted into a liquid.