**CHEMISTRY PAPER 1SET 7**

**MARKING SCHEME**

1a) Hydrogen 1mk

2, H2e(g) + Mgh) MgO(15) + 11 (g)

c) There will be no un, copper is less texture than magnesium /copper is below hydrogen’s in the reactivity series

CH2CHCH2CH3 + H2 - CH3CH2CH2CH3

Bonds broken Bonds formed

C=c-610 C-H-2(413)

H-H-432 E-C-1(346)

610\_432+(-413X2+346)

1042+(1172)

1042-1172

130Rj/Kapl

3B-UIt is sapless detergent hence will lather with hard water

4,.Blue ppt is formed

ii)The blue ppt dissolves to form G deep white soln

(CU (NH3)4) 2+ Tetramine copper (KK) Ions

5.

i.Alpha

ii)Beta

b)100-50-25-125-6.25

6.5% will be remaining

6.

i) 11

ii) 16

b)W27

(23X2) + 32 =78

c)In molten and aqueous soln.

7a) Chlorine

b) Mno2 + 4HCL (ag) MnCL 2 (ag) + 2H2O + Cl2 (g).

c)

They are bleached. Naocl donates the atomic oxygen toth e dye int eh petals hence belachign them (bleacihnng by oxidation)

Naocl \_ dye Nacl + (O-1dye)

8.

$\frac{Rate of Q}{Rate of O2}$ = $\sqrt{\frac{MM 02}{MMQ}}$

Rate of Q = 100/30 = 3.33 CM $\frac{3.33}{2.5 }$ = $\sqrt{\frac{52}{X}}$

Rate of O3 = 300/120 = 2.5cm (1.332)2 = 32/X

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a)Lew MP

Immiscible in water

b)

To absorb the SO4.

10

69.39 = $\frac{60.15X}{100 }$ + $\frac{70.15(100-X}{100 }$

69.39 = 0.6015x + 70.15 – 0.7015X

69.39 = -0.1X + 70.15

60.15 = 7.6%

70.15 = 92.4%

-0.76 = -0.1x

7.6=x

11.

M= 75 x 1 = 75 g

∆T=29.3 -23.7=5.6k

Q=MC AT

75 x 42 x 5.6

1764J

No of moles Cu = 583/635

= 0.918moles

0.918 moles = 1764Kj

1 Mole = $\frac{1}{0.0918 }$ x 1.764

= -19.22 Kj / moles

Penalize ½ mk for the sign.

12a

Mellon deposing of sulphure

Fumes of hydrogen chlorich gas

Chlorine is reduced to hydrogen chlorine gas and hydrogen sulphide is oxidized to sulphur

b) H2S is poisonous hence the exp. Should be done in the fume chamber

c)Chlorine bleaches by oxidation (giving oxygen) while SO bleaches by reduction (accepting oxygen)

13. $\frac{P1V1}{T1 }$= $\frac{P2V2}{T2 }$

$\frac{200x750}{25+273}$= $\frac{x x 300}{30+273 }$

$\frac{150000}{298}$= $\frac{x x 300}{303 }$

X= 508.39cm3

14a

In the reacting series mg is higher than Zn hence it cannot displace the oxygen from mgo.

b)Fe (c) + 3 Pbo (3) Fe2 O3(s) + 3pb(s)

15.a) C

b) Colourless to pink

c)CaCo3 (g) + 2Hcl (ag) Cacl2 (ag) + CO2(ag) + H2 O (1)

0.005 Moles 0.01 moles

0.2 moles of HCL = 1000 cm3

0.01 moles = $\frac{1000x0.01}{0.2}$= $ $ 50cm3.

16\i)Metallic

ii)Ionic

bi)Zinc nitrate /pb (No2)2.

ii)Znco /Zn 2+ (aq).

17i) Zinc blend (zinc sulophide)

ii)Lead (II) sulphide (galeng)

iii)The ore is grounded into fine powder. Mixed with water and suitable oil. Air is blown thorough the mixture.

18a)The ammonia reacts with water which forms HN40H which leads to the change from red to blue. Absence of water lead to no formation of NH40H.

b)Should be moist

c)Upward delivery (less devise than air)

19

Add excess lead carbonate to dilute HNO3

Filter to obtain the residue and filtrate

Add the filtrate to dilute HCL white ppt is formed

Filter and obtain the residue (lead (II) Chloride)

Wash the residue in distilled water and dry between filter papers.

20 Mg being more reactive than iron it will react by supplying electrons to the iron hence permuting non form rusting

21.H(g) + e H(g)

Hg H+(g) + e.

22.Ethy/propoate

b)30Methy/but-i-yne

23)Reduction

ii)Dehydration

27.

a)Calcium carbonate 9Caco3)

calcium oxide 9Cao)

b)Drying agent

29a

Fecl2- reducing agent

Fe2+ Fe3+.

Fe2+ has been oxidized to Fe3+ in the process it reduced CL from O to -1.

b)C10-=-1

X + 4 (-2) = -1

X-8 = -1

X= -1+8

X=7

Oxidation state of chlorine = +7

29ai)10.352 -10.240 = 0.112 g

ii) 10.400 – 10.352 = 0.048 g

b) M 0

Mass 0.112 0.048

 56 16

 0.112 0.0048

 56 16

 0.002 0.003

 0.002 0.002

 1x2 1.5 x2

 2 3

M2O3.