SERIES 26 EXAMS

MARKING SCHEME

1. Table 1

Complete table	*-2mks*	*5mks*
Decimal point	*-1mk*	
Accurate value	*-1mk*	
Principal of average	*-1mk*	
Final answer	*-1mk*	

(i) average = $\pm 0.1\frac{(20+20.0+20.0)}{3} = 20.0cm^3$

(ii) Molarity of R= $\frac{40}{40\surd\ ½} = 1.0\ \surd\ ½$ 1

$\frac{25x\ 1}{1000\surd\ ½} = 0.025\ \surd\ ½$ 1

(iii) NaOH : HCl

1 : 1

0.025=0.025 (same moles) 1

(iv) $20.0cm^3$ =0.025

$100cm^3 = \frac{0.025}{20} \times 100\surd\ 1$ 1

=0.125√ *1* 1

(v) $1000cm^3$=2moles

$100cm^3 = \frac{100x\ 2}{1000}\surd\ 1$ 1

=0.2moles √ *1*

(vi) 0.2-0.125√ *1*= 0.075√ *1* 2

(vii) $MCO_{3\ (s)} + 2HCl \longrightarrow MCl_2 + H_2O + CO_{2(g)}$ 1

Moles of $MCO_3 = \frac{0.075}{2}\surd\ ½$ 1

=0.0375moles √ ½ 1

(viii) RFM of $MCO_3 = \frac{4.69}{0.0375}\surd\ ½$

=125 2

(ix) RAM of Q = 125-60

=65√ ½ 1

20

2.(i) Blue litmus paper turns red √ ½ Red litmus remains red √ ½	Acidic compound/H^+ √ *1* present	2
(ii) Effervescence occurs √ *1*	H+ present /solution acidic √ *1*	2
(iii) Purple colur changes to colourless/H+/$KMNO_4$ is decolourised	C= C – C ≡ C-√ *1*	2
(iv) Fruity or sweet smell√ *1*	-COOH- confirmed √ *1*	2=8

3.Solid N

(a) Dissolves to form a colourless solution √ *1*	Fe^{2+}, Fe^{3+} or Cu^{2+} √ *1* absent	2
(b) White √ ½ precipitate soluble √ ½ in excess **1**	Al^{3+}, Zn^{2+} or Pb^{2+} √ *1* 3 ions -1mk 2 ions- ½ mk	2
(c) white √ ½ precipitate insoluble √ ½ in excess alkali *1*	Al^{3+}, Pb^{2+} present √ *1*	2
(d) No white precipitate is formed *1*	Al^{3+} √ 1 confirmed	2
(e) white precipitate √ *1*	Cl^-, SO_4^{2-}, SO_3^{2-}√ *1Rj* Co_3^{2-} Note aluminum carbonate does not exist	2
(f) white precipitate dissolves on warming √ *1*	Cl^- ions √ 1 confirmed	2 **12**