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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$\surd$ *1* 1

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

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

=0.2moles $\surd$ *1*

(vi) 0.2-0.125$\surd$ *1*= 0.075$\surd$ *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 $\surd ½$ 1

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

=125 2

(ix) RAM of Q = 125-60

=65$\surd ½$ 1 **20**

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

3.Solid N

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

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