

Cambridge Assessment International Education Cambridge Ordinary Level

CHEMISTRY

Paper 3 Practical Test

MARK SCHEME

Maximum Mark: 40

Published

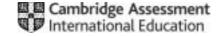
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Question		Answer	Marks
1(a)	Titration Measurements (1) Both readings i.e. initial and final are present for each titrate and no initial reading is given as 50.0 Titres (1) All the titres are calculated correctly i.e. no subtraction error Accuracy (6) For the two best titres give: 3 marks for a titre within 0.2 cm³ of the Supervisor's value 2 marks for a titre within 0.3 cm³ of the Supervisor's value 1 mark for a titre within 0.4 cm³ of the Supervisor's value Concordance (3) Give 3 marks if all the ticked values are within 0.2 cm³ Give 2 marks if all the ticked values are within 0.3 cm³ Give 1 marks if all the ticked values are within 0.4 cm³ Average (1) Give 1 mark if the candidate calculates a correct average of		12
1(b)	Pipette volume 25 cm ³ and assuming average volume of P Concentration of nitric acid in P in mol/dm ³	used = 25.3cm^3 = $(25.0 \times 0.153 \times 2) / 25.3 (1)$ = $0.302 (1)$	2
1(c)	Moles of nitric acid in 10 cm ³ of concentrated acid	= (b) / 2 (1) = 0.302 / 2 = 0.151	1
1(d)	Concentration of concentrated nitric acid in mol/dm ³	= (c) × 100 (1) = 0.151 × 100 = 15.1	1
1(e)	Mass of nitric acid in 1 dm ³ of concentrated nitric acid in g	= (d) × 63 (1) = 15.1 × 63 = 951	1

Question	Answer	Marks
Solutions: col	ate	
2 R (test 1)	(a) white ppt (1) (b) (ppt) dissolves / soluble (in excess) (1) colourless solution (1)	21
2 R (test 2)	(a) white ppt (1) (b) (ppt) dissolves / soluble (in excess) (1) colourless solution (1) (c) no reaction (1)	
2 R (test 3)	(a) no reaction (1) (b) white ppt (1) (c) no reaction (1)	
2 S (test 1)	(a) green ppt (1) (b) insoluble in excess (1)	
2 S (test 2)	(a) green ppt (1) (b) insoluble in excess (1) (c) bubbles (1) gas relights a glowing splint (1) oxygen (1) red/brown (solid) (1)	
2 S (test 3)	(a) no reaction (1) (b) white ppt (1) (c) no reaction (1)	

Question	Answer	Marks
Conclusions	R is zinc sulfate / ZnSO ₄ / Zn ²⁺ SO4 ²⁻ (1) Evidence: Tests 1 and 2 white ppt which dissolves in excess and Test 3 correct in (a), (b) and (c) S is iron(II) sulfate / FeSO ₄ / Fe ²⁺ SO4 ²⁻ (1) Evidence: Tests 1 and 2 green ppt insoluble in excess and Test 3 correct in (a), (b) and (c)	2