CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0620 CHEMISTRY

0620/61

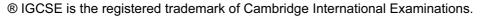
Paper 6 (Alternative to Practical), maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October / November 2014 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.





	ugo z	Cambridge IGCSE – October / November 2014 0620 6	
1	(a)	boxes completed to show stirrer / glass rod (1) watchglass / evaporating dish (1)	[2]
	(b)	to speed up the reaction (1)	[1]
	(c)	correct answer 4.2 g (2) if incorrect, evidence of 17.8 – 13.6 (1)	[2]
	(d)	(i) solid / lead oxide visible / remaining (1) do not allow: mention of precipitate	[1]
		(ii) filtration (1)	[1]
	((iii) excess (1) allow: residue	[1]
	(e)	Any two from: evaporation / steam (1) solid / crystals formed (1) breakdown / decomposition of solid (1)	[2]
		ereandem, decempedation er cond (1)	[-]
2	(a)	smooth curve missing anomalous point (1)	[1]
	(b)	composition of mixture double volume / 100 cm³ of hydrogen peroxide (1) more than 1 g of manganese(IV) oxide / powdered (1) ignore: references to water note: double the concentration is valid for (2)	[2]
		explanation double volume of gas (1)	
		faster reaction (1)	[2]
	(c)	catalyst / increase the rate of the reaction (1)	[1]
	(d)	sketch graph less steep than original for Experiment 1 (1) to same level (1)	[2]
3	(a)	(i) chromatography (1)	[1]
		(ii) to prevent loss / evaporation of solvent (1)	[1]
	(b)	when the solvent is near the top of the paper / before the solvent reaches the top of the paper (1)	[1]

Mark Scheme

Syllabus

Paper

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	(c)	(i) 4 (1)		[1]
		(ii) yes, one artificial dye (1) at same height / matches (1)		[2]
4	(a)	table of results for Experiment 1 initial volume completed correctly (1) 0 or 24.4 all readings to 1 decimal place (1)		[2]
	(b)	table of results for Experiment 2 final volume completed correctly (1) 6.1		
		difference correct (1)		[2]
	(c)	(i) neutralisation (1) allow: acid-base		[1]
		(ii) as an indicator / to show end point (1)		[1]
	(d)	water to remove the solution A of acid (1) acid B to remove traces of water (1)		[2]
	(e)	(i) Experiment 1 ecf from readings (1)		[1]
		(ii) any correct comparison (1)		[1]
		(iii) solution B more concentrated / stronger (1) or converse less volume was needed (1)		[2]
	(f)	half value from table result for experiment 2 (1) cm ³ (1)		[2]
	(g)	advantage: easy to use / quick / convenient (1) disadvantage: not accurate owtte (1)		[2]
	(h)	same volume of each solution (1) add suitable reactant (1) expected observation (1) comparison (1) note: e.g. 10 cm ³ of each acid (1), add strip of magnesium / named car effervescence (1), more rapid bubbles means stronger acid (1)	bonate (1)	[4]

Mark Scheme

Syllabus

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5	(c)	no	reaction / no change / no precipitate (1)		[1]
	(d)		ite (1) ecipitate (1)		[2]
	(e)		nsition metal present (1)		
		wa	ter / hydrated (1)		[2]
	(f)	hyd	drated (1) iron (1) (II) (1) (sulfate)		[3]
6	(a)	(i)	gas syringe / inverted measuring cylinder in trough of water (1) labelled (1)		[2]
		(ii)	limewater (1) milky (1)		[2]
(b)		in rev	asured volume of water (1) named weighed container (1) aporate to dryness (1) veigh / measure mass of solid (1) nclusion: e.g. double the mass of residue if 500 cm ³ water used to che	eck mass in	max [4]