Cambridge IGCSE

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CO-ORDINATED SCIENCES **0654/53**

Paper 5 Practical Test **October/November 2017**

MARK SCHEME

Maximum Mark: 45

Published

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

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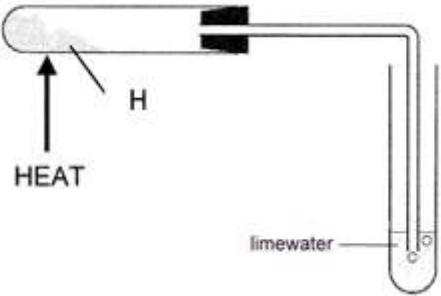
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This document consists of **5** printed pages.

Question	Answer	Marks
1(a)(i)	four readings ; to the nearest 0.1 cm ; decreasing ;	**3**
1(a)(ii)	cm^2 and cm ;	**1**
1(b)(i)	axes correctly labelled with units ; suitable linear scale using at least half the grid ; all 4 points plotted correctly ± half small square ; best-fit straight line through origin ;	**4**
1(b)(ii)	more enzyme faster reaction ORA ;	**1**
1(b)(iii)	correct reading from graph ; lines on graph to show working ;	**2**
1(c)	glowing splint **and** relights;	**1**
1(d)	any **two** from: temperature ; pH ; pieces from same potato ; concentration of peroxide ;	**2**
1(e)	only cells on the outside of the potato are in contact in the peroxide ;	**1**

Question	Answer	Marks
2(a)(i)	 either **H** or limewater label required ;	1
2(a)(ii)	(**H**) turns yellow (solid) ; white when solid cools ; (limewater) milky / white ppt. ; goes colourless / ppt. dissolves / ppt. disappears / less ppt. ;	4
2(b)(i)	bubbles / effervescence / colourless solution ;	1
2(b)(ii)	white ppt. ; ppt. dissolves / ppt. disappears / forms colourless solution (from ppt.) ;	2
2(c)	(**H** is) zinc ; carbonate ;	2
2(d)(i)	grid with all entries (as below) ; <table><tr><td>test</td><td>observation</td></tr><tr><td>barium nitrate solution</td><td></td></tr><tr><td>silver nitrate solution</td><td></td></tr></table>	1

Question	Answer	Marks
2(d)(ii)	<table><tr><td>test</td><td>observation</td></tr><tr><td>barium nitrate solution</td><td>no reaction ;</td></tr><tr><td>silver nitrate solution</td><td>yellow ppt. ; (accept cream ppt.)</td></tr></table>	2
2(d)(iii)	brown solution ;	1
2(d)(iv)	not a sulfate / not a chloride / iodide / not a bromide ;	1

Question	Answer	Marks
3(a)(i)	v recorded for u = 30 cm ; to the nearest 0.1 cm ;	2
3(a)(ii)	all v values present ; v values decreasing ;	2
3(a)(iii)	ratios correct ;	1
3(a)(iv)	all values correct ;	1
3(b)(i)	suitable choice of scales (⩾ half the grid used) ; at least 4 plots correct to half a small square (penalise 'blobs') ; good best-fit line judgement ;	3
3(b)(ii)	indication **on graph** of how data obtained **and** at least half of line used ; correct calculation for triangle method using data from graph ;	2

Question	Answer	Marks
3(b)(iii)	(15.0 ± 1.0) cm ; 2 / 3 significant figures ;	**2**
3(c)	any **two** from: move screen slowly / to and fro (until sharpest focus obtained) ; repeat each reading **and** average ; object / lens / screen perpendicular to bench ; object and lens same height above the bench ; carry out experiment away from other bright light sources / in a darkened room / use bright(er) light source ;	**2**