Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

COMBINED SCIENCE **0653/51**

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

MARK SCHEME

Maximum Mark: 30

Published

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.

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Question	Answer	Marks
1(a)(i)	result for 4% recorded ;	**1**
1(a)(ii)	full set of results recorded ; all readings present in whole seconds for all readings present ; increases in time down the table ;	**3**
1(b)(i)	suitable linear scale using at least half the grid ; all 4 points correctly plotted ± half small square ; best-fit line ;	**3**
1(b)(ii)	decreasing concentration increases time ORA ;	**1**
1(c)	all temperatures between 0 and 100 inclusive ; at least 3 between 10 and 50 inclusive ;	**2**

Question	Answer	Marks
2(a)(i)	filtrate **and** residue correctly labelled ;	**1**
2(a)(ii)	blue / purple **and** 10–12 ;	**1**
2(a)(iii)	milky / white ppt ;	**1**
2(b)(i)	blue ppt ; dark(er) blue solution ; (**J** is) copper (nitrate) ;	**3**
2(b)(ii)	(slight) blue ppt. / blue solid ;	**1**
2(c)(i)	sodium hydroxide ;	**1**
2(c)(ii)	(**H** is) calcium (oxide) ; **H** + water gives limewater for CO_2 test in **(a)(iii)** / **F** is limewater / calcium oxide reacts exothermically with water / **H** and water has pH > 7 ;	**2**

Question	Answer	Marks
3(a)(i)	*V* and *I* recorded in table for 0 cm ; *V* < 2.5 V and *I* < 1.0 A ;	**2**
3(a)(ii)	all values recorded ; *V* values decreasing ; *I* values decreasing ; **either** *V* to at least 1 d.p. **or** *I* to at least 2 d.p. ;	**4**
3(b)	all power values correct ; power values decreasing ;	**2**
3(c)	no / yes (to match results) and actual values used to show relationship / reference to how P changes with *I* ; doubling *I* does not double *P* (for no) / doubling *I* doubles *P* (for yes) or *P* / *I* not constant (for no) or *P* / *I* constant (for yes) ;	**2**