Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

PHYSICAL SCIENCE **0652/52**

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)	initial temperature for **L** to nearest 0.5 °C ; maximum temperature for **L** above initial ; bubbles (in Table 1.2) ;	**3**
1(a)(ii)	initial temperature for **M** **and** max temperature below that for **L** ; fewer bubbles / slower bubbling than **L** ;	**2**
1(a)(iii)	initial temperature for **N** **and** max temperature above **L** ; more bubbles / faster bubbling than **L** ;	**2**
1(a)(iv)	pops **and** hydrogen / H_2 ;	**1**
1(a)(v)	all temperature changes correct ;	**1**
1(b)(i)	most = **N** then **L** and least = **M** ; (obs used) temperature change / speed of bubbling / how vigorous the reaction is / OWTTE ; (explanation) more bubbles means metal more reactive / greater rate of bubbling means metal more reactive / greater temperature change means metal more reactive / ;	**3**
1(b)(ii)	pieces of metal same shape / same mass of metal / same subdivision of metal / same concentration of acid ;	**1**
1(c)	add sodium hydroxide solution / ammonia solution ; green ppt. **and** iron ;	**2**

Question	Answer	Marks
2(a)	s, °C, °C ;	**1**
2(b)(i)	For P, θ recorded and in correct t = 0 box in table ;	**1**
2(b)(ii)	all t values recorded and correct ; θ and t recorded for P; θ decreasing ;	**3**
2(c)	θ present at t = 0 ; all θ recorded for **Q** ; θ decreasing ; smaller decrease in temperature ;	**4**
2(d)	to allow thermometer reading to attain maximum temperatures / OWTTE ;	**1**
2(e)	decreases rate of cooling ; lower temperature drop in 3 minutes ;	**2**
2(f)(i)	use a lid ;	**1**
2(f)(ii)	any 2 of: room temperature / other environmental condition ; initial temperature of water / hot water temperature ; volume of water ;	**2**