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Cambridge International General Certificate of Secondary Education

PHYSICAL SCIENCE

0652/51

Paper 5 Practical Test

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MARK SCHEME

Maximum Mark: 30

Published

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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