



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

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**COMBINED SCIENCE**

**0653/52**

Paper 5 Practical Test

**May/June 2017**

MARK SCHEME

Maximum Mark: 30

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**Published**

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Question	Answer	Marks
1(a)	quality drawing in pencil using at least half the space ; male parts, anther and filament drawn ; female parts, stigma and ovary drawn ; petals drawn ;	4
1(b)(i)	line drawn edge to edge ; correct measurement of drawing <b>and</b> sensible flower measurement ;	2
1(b)(ii)	correct calculation ;	1
1(c)	benedict's solution; heat; orange / red indicates more sugar <b>or</b> yellow / green indicates less sugar ;	3

Question	Answer	Marks
2(a)(i)	temperature recorded and within 5°C of supervisor's value ; both volumes recorded <b>and</b> $V_2 > V_1$ ;	2
2(a)(ii)	temperature recorded for <b>experiment 2</b> and 8–12 °C above the temperature for <b>experiment 1</b> ; both volumes recorded <b>and</b> both greater than those in <b>(a)(i)</b> ;	2
2(a)(iii)	temperatures for <b>experiment 3</b> recorded <b>and</b> to nearest half degree ; $V_1$ and $V_2$ for <b>experiment 3</b> greater than $V_1$ and $V_2$ for <b>experiment 2</b> ;	2
2(b)(i)	all values of $V$ correct ;	1
2(b)(ii)	the higher the temperature the higher the rate of the reaction ;	1

Question	Answer	Marks
2(c)	bubble into water ; count bubbles in a certain time / time for certain number of bubbles ; <b>or</b> connect delivery tube to a gas syringe ; measure volume in a certain time / time for a certain volume ; <b>or</b> place reaction flask on a balance ; measure mass (decrease) in a certain time / time for certain drop in mass ;	2

Question	Answer	Marks
3(a)(i)	$m$ present <b>and</b> to 0.1 g ;	1
3(a)(ii)	$V_1$ present <b>and</b> $65 \pm 5$ (cm <sup>3</sup> ) ;	1
3(a)(iii)	$V_2$ present ; $V_2 > V_1$ ;	2
3(a)(iv)	calculation correct ;	1
3(a)(v)	calculation correct <b>and</b> 2 / 3 sig fig ; g / cm <sup>3</sup> ;	2
3(b)(i)	<b>any 2 from</b> ;  not reading to bottom of meniscus not reading perpendicular to scale of measuring cylinder / not eye level test tube touching the side of cylinder / how the test-tube floats zero error on balance	max 2
3(b)(ii)	state effect on $V$ or $m$ and hence effect on $d_2$ ;	1