



BIOLOGY

0610/63

Paper 6 Alternative to Practical

May/June 2017

MARK SCHEME

Maximum Mark: 40

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

Mark schemes will use these abbreviations

- ; separates marking points
- / alternatives
- I ignore
- R reject
- A accept (for answers correctly cued by the question, or guidance for examiners)
- AW alternative wording (where responses vary more than usual)
- AVP any valid point
- ecf credit a correct statement / calculation that follows a previous wrong response
- ora or reverse argument
- () the word / phrase in brackets is not required, but sets the context
- underline actual word given must be used by candidate (grammatical variants excepted)
- max indicates the maximum number of marks that can be given

Question	Answer	Marks	Guidance
1(e)(i)	<p>L: 25.00 ;</p> <p>N: 62.5 ;</p> <p>correct number of decimal places on both ;</p>	3	
1(e)(ii)	<p>axes labelled and units ;</p> <p>even scale to fill more than half of the printed grid ;</p> <p>plot three / four points correctly ;</p> <p>line of best fit / trend line ;</p>	4	ecf candidate result for 1(e)(i)
1(e)(iii)	<p>mark volume of iodine used on (y-axis of) graph / extended horizontally and extended line vertically from plotted point to x-axis ;</p> <p>correct reading from graph on answer line ;</p>	2	
1(f)	<p>range of temperatures ;</p> <p>values for temperatures stated ;</p> <p>time at each temperature ;</p> <p>use of water-bath / named method ;</p> <p>description of extracting juice ;</p> <p>detail of use of iodine drops / volume / addition of starch for end point ;;</p> <p>at least two repeats ;</p> <p>(controlled variables) heating time / same type of vegetable / all samples from same vegetable ;</p> <p>relevant reference to safety ;</p>	6	<p>minimum of three</p> <p>at least one above 50</p>

Question	Answer	Marks	Guidance
2(a)	<i>any four from:</i> drawing with clear outline ; scaled to fit more than half the space ; shape 5 / 6 sides for both ; detail showing 3 / 4 layers with no shading and no cells ;	4	
2(b)(i)	length of PQ = 80 mm ; (x)64 ;;	3	$\pm 1\text{mm}$ $(80) \div 1.25$
2(b)(ii)	plane of section / AW ; magnification ; number of villi different ;	2	
2(c)(i)	A: 3 B: 9 C: 11 ;	1	A 2 instead of 3 for A 3 correct answers = 1 mark
2(c)(ii)	30 °C ; has highest rate of reaction / AW ;	2	
2(c)(iii)	it is much higher / different than trial 1 and 3 / AW ;	1	
2(c)(iv)	(IV) temperature ; (DV) rate of reaction ;	2	