

CAMBRIDGE INTERNATIONAL EXAMINATIONS GCE Advanced Subsidiary Level and GCE Advanced Level

MARK SCHEME for the May/June 2014 series

9700 BIOLOGY

9700/33

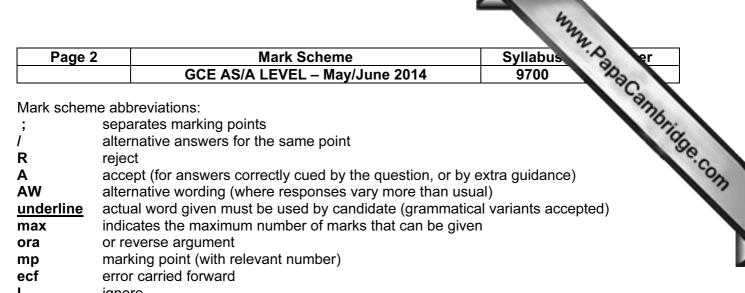
Paper 33 (Advanced Practical Skills 1), maximum raw mark 40

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.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



I ignore

Page 3	3	Mark Scheme Syllabus	er er
		GCE AS/A LEVEL – May/June 2014 9700	Par
(a) (i)	reco	rds volume of H as whole number (or to 0.5) + cm^3 ;	amb
(ii)	reco	rds length of time as every 2 minutes, e.g. 2, 4, 6, 8 + 10 minutes ;	195
(iii)	end or tir	ce of error of delivery tube different level in each test-tube ne to transfer delivery tube different each time ss of <u>CO₂</u> from delivery tube ;	Papa Cambrida
	mark or ke	eription & delivery tube or test-tube eep clock running, record time delivery tube in C eal end of delivery tube during transfer ;	[max 2]
(iv)	head hydr colle reco	nised into table all columns separated by a line + all headings underlin lings (top or to left of data) time / minutes + (any column / row headed) ochloric acid / HC1/ cm ³ ; cts readings for at least 4 volumes ; rds all volumes less than volume recorded in (a)(i) ; esults to no more than one decimal place ;	
(v)		ult judging colour of end-point (blue / cloudy yellow) or mixing ${f H}$ and test-tube ;	d C varies for [1]
(vi)	syrin	ge or ruler + no effect + if use same syringe or ruler	
	or syrin	ge or ruler + results not accurate + not true value ;	[max 1]
(b) (i)	(<i>x</i> -axis) even bar widths (R + T) up to 1 cm + (<i>y</i> -axis) labelled mean leaf area / cm ² plant ⁻¹ × 103 + scale (zero at origin) 1.0 to 2 cm, labelled every 2 cm ;		
	correct plotting of each bar, in the order in the table, with horizontal, ruled sharp line;		
	labe	s) quality of vertical lines, ruled, sharp lines that meet horizontal lled with clear labels (R and T) ; Is must be directly below bars or inside bars or shaded with key	line exactly + [3]
(ii)	(for I quot highe	R + T) as concentration of <u>CO₂</u> increases the <u>leaf area</u> increases ; ed figures to support idea that plant R has greater mean leaf area the est concentration of CO ₂	
	or mea	n leaf area of plant T increased less between 380 and 719 than R ;	[max 2]
(iii)		nigher leaf area for R the more transport ; eased transpiration or translocation ;	[2]
		l lines for upper epidermis and 2 lines for lower epidermis closed area + size at least 80mm for depth of midrib + no shading ;	
cor	rrect p	• one enclosed area (vascular bundle); roportion of vascular bundle in relation to distribution of tissues in midri el line and label to vascular bundle;	ib; [4]

[Total: 22]

Page 4	Mark Scheme	Syllabus er
	GCE AS/A LEVEL – May/June 2014	9700
	at least 9 separate cells in total drawn in boxes S1 , S2 an across largest cell, in any box ; from 2 to 6 whole cells (not overlapping) drawn in each of the drawn only 3 cells in each of the three boxes ; at least one colour stated for each of the cells in the boxes S	boxes S1, S2 and S3,
	S1 – 100 (°C) S2 – 45 (°C) S3 – 80 (°C) ;	
(iii)	yeast cells blue + therefore inactive or dead ;	
	(iv) heat to at least two named temperatures, at least 10 °C apart, between 45 °C and	
	<u>count</u> dead / blue yeast cells (from sample of yeast cells) ; plots graph to find unknown temperature ;	
	at least 4 whole cells + no shading + size at least 20 mm acro sharp and continuous outer line ;	oss cell with greatest width
	only five whole cells ; at least 2 cells with inclusions ; at least 2 cells with buds ;	
	uses label line and label to nucleus or cytoplasm ;	
	five (measurements) between (9mm to 15mm) + to 0.5mm; shows addition of measurements + shows division by numbe show division by 1200;	
	shows conversion of mm to μ m as \times 1000 + units ;	
		[Total: 1