## www.papacambridge.com MARK SCHEME for the October/November 2013 series

## **9700 BIOLOGY**

9700/35

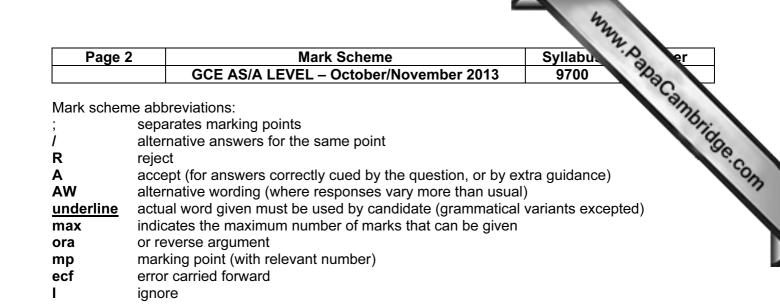
(Advanced Practical Skills 1), maximum raw mark 40

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.

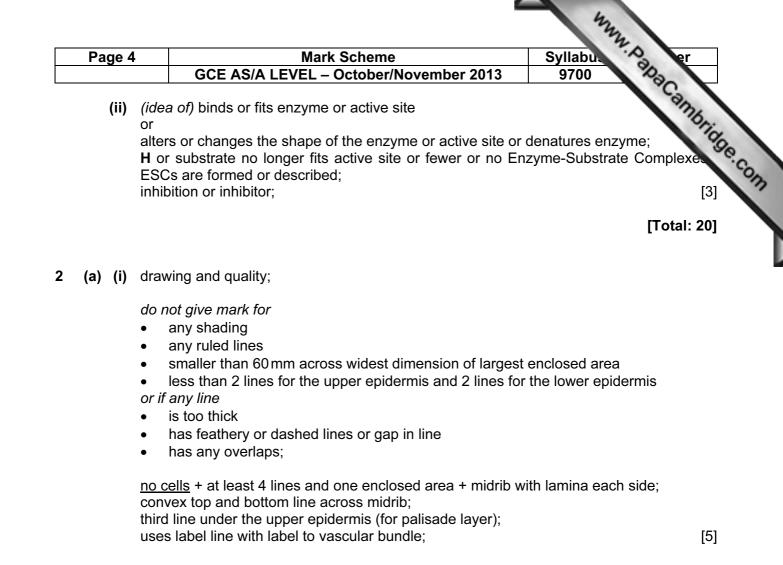
Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2013 series for most IGCSE. GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



Page 3	Mark Scheme GCE AS/A LEVEL – October/November 2013	Syllabu er		
1 (a) (i)	GCE A3/A LEVEL - October/November 2013	9700 202		
i (a) (i)	(labels under correct sequence of beakers) correct halving $3 + 1.5 + 0.75$ with % once; transfers 20 from second beaker to third, third to fourth etc. adds 20 (distilled) water to each beaker + cm <sup>3</sup> ;	+ cm <sup>3</sup> ;		
(ii)	heading (column to left of data or top row) percentage or peroxide or $H$ + (any column / row headed) height or length records results according to instructions i.e. 4 concentration first and lowest concentration is last; correct pattern of results, records a value for 6% which is other results;	of foam + mm; ons with highest concentration s higher than any one of the		
	only recorded the processed maximum height + values to w	vhole mm or 0.1 cm; [5]		
(iii)	cause of error + idea of error:			
	bubbles / foam at top + not same or difficult to judge or varie tube + changes as held or not vertical or not the same; holding / hand + may warm up tube or temperature changes test-tubes + different or vary or not same; stirring + different or vary or not the same; drops of detergent + different sizes / volumes / detergent sti- timing + different or vary or not the same / reaction started b	s; icks to the sides;		
(iv)	<ul> <li>(iv) (independent variable) at least five differerent concentrations of <u>copper sulfate</u> or gives five examples; (how made) <u>serial dilution</u> or <u>simple dilution</u> or method must match any examples of concentration given in mp1, <i>do not give mark if</i> stated concentrations cannot be made by the stated dilution method (e.g. serial dilution cannot make 20%, 30%, 40%, 50%, 60%)</li> </ul>			
	any of the following: same volume/concentration of hydrogen peroxide or examp or same volume of copper sulfate or example of a volume give or same volume/concentration of plant extract or example give	en		
(b) (i)	<i>line graph:</i> label on <u>x-axis time (/) s or sec(onds)</u> + label on <u>y-axis n</u> <u>released;</u> scale x-axis <u>50 to 2 cm labelled each 2 cm</u> + <u>y-axis 20 to 2 cm</u> correct plotting of five of the plotted points as small cross or ruled lines through five plotted points for distilled water; <i>ruled lines must not be too thick</i>	m labelled each 2 cm;		



(ii) drawing and quality;

do not give mark for

- any shading
- any ruled lines
- smaller than 40 mm across widest dimension of largest cell
- less than 6 cells / enclosed areas

or if any line

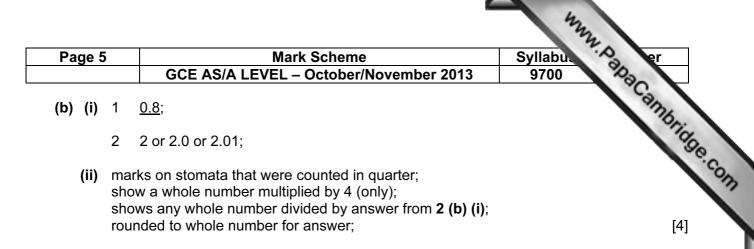
- is too thick
- has any feathery or dashed lines or gap in line
- has any overlaps

draws only three palisade cells and three epidermal cells + as one group (all cells touch at least one other cell);

no more than one rectangular (palisade cell) + palisade cells should all touch an (epidermal) cell;

all cells must be drawn with double lines + three lines where cells touch; uses label line with label to only one palisade cell.

[5]



(c) mp1 organise as table with <u>three</u> columns separated by lines or three rows separated by lines no cell lines needed + two columns headed <u>Fig 2.3</u> and <u>Fig 2.4</u> in any order + third column or row contains at least one feature;

## Any two of:

mp	feature	Fig. 2.3	Fig. 2.4
mp2	number of stomata	more or example of a number closer packed / nearer /gap narrower / clustered	few(er) or example of a number;
mp 3	size of stomata or epidermal cells or guard cells	small(er)	large(r);
mp 4	shape of stomata	oval or slit or elongated	round(er) or circular;
mp 5	guard cell shape stomata or guard cells	oval or elongated (more) closed or fewer open	round(er) or circlular; (less) open or more open;
mp 6	epidermal cell shape or pattern of lines	very irregular or not clear folded	clear or angular or corners smoother;
mp 7	epidermal cell walls	thin(ner)	thick(er);

[max 4]

[Total: 20]