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9700 BIOLOGY

9700/36

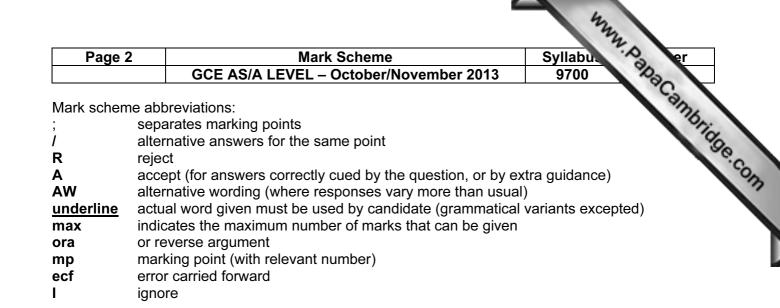
(Advanced Practical Skills 2), maximum raw mark 40

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.

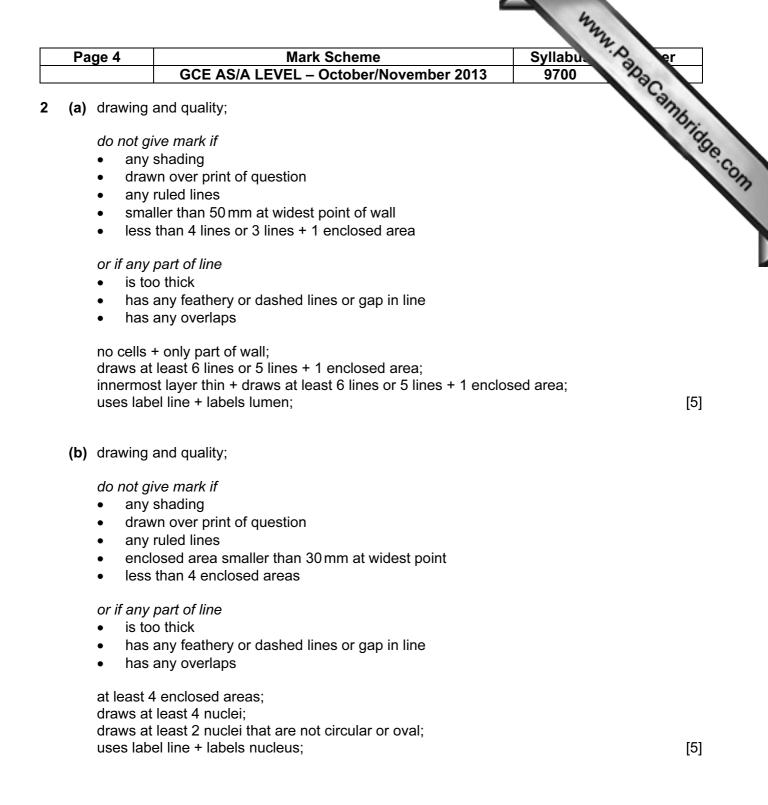
Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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.



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Page 3		Mark Scheme Syllabu.	er		
		GCE AS/A LEVEL – October/November 2013 9700	30		
l (a) (i	i) B	volume same as sample or B volume more than sample + temperature 100 °C;	ambrio		
(ii	(G2 trai	bels under correct sequence of beakers) 2) 0.2%, + (G3) 0.1%, + (G4) 0.05%; nsfers 10 from second beaker to third, third to fourth + cm ³ ; ds 10 cm ³ distilled water / W to each of three beakers;	er nacambrid		
	add	as To cm ⁻ distilled water / w to each of three beakers;	[3]		
(iii	hea rec	rganised into table; eading (column to left of data or top row) time (/) sec(onds) + (any column / rov headed) percentage concentration of reducing sugar; ecords results according to instructions i.e. for 0.4% and three other concentrations; orrect pattern of results: highest concentration shorter time than next concentration;			
		ords all results as whole seconds;	[5]		
(iv		rect E has the shortest time; rect % estimate for E ;	[2]		
(v	•	e of iodine solution;			
		npling at equal time intervals; e until iodine remains same colour;	[3]		
(b) (i	(b) (i) label on x-axis <u>percentage of beads with iron sulfate</u> + label on y-axis <u>mass of (n sugar) produced / μ moles min⁻¹</u> ; (x-axis) 10 to 2 cm labelled each 2 cm + (y-axis) 20 to 2 cm labelled each 2 cm;		(reducing		
		rect plotting of five points as small cross or dot in circle;	[4]		
	rule	ed lines through the 5 points;	[4]		
(ii	i) as	% of beads with iron sulfate increases mass of reducing sugar decreases;	[1]		
(iii		n sulfate inhibits reaction; ers active site or binds to enzyme or fewer Enzyme-Substrate Complexes;	נסז		
	all	ers active site of binds to enzyme of lewer Enzyme-Substrate Complexes,	[2]		
]	Total: 21]		



		2.
Page 5	Mark Scheme	Syllabu. er
	GCE AS/A LEVEL – October/November 2013	9700

- ambridge.com (c) (i) correct measurement of Y (in mm 119 or 119.5 or 120 or 120.5 or 121 or cm 11.95 or 12(.0) or 12.05 or 12.1(0)) + Z (in mm 16 or 16.5 or 17 or 17.5 or 18) or cm 1.6(0) or 1.65 or 1.7(0) or 1.75 or 1 correct precision with mm or correct precision with cm; shows ratio correctly;
 - (ii) correct observable feature e.g. large lumen;
 - (iii) mp1 organise as a table with three columns or rows separated by lines + two columns headings N1 / slide and Fig 2.2 in any order + third column or row contains list of features; mp2 includes at least one similarity;

mp	feature	N1 /slide	Fig. 2.2
mp3	lumen	present large	present large;
mp4	more than one tissue layer	present	present
	or	or	or
	thickness of wall	thick	thick
	or	or	or
	innermost layer	thin	thin;
mp5	(lumen) shape	rounded or 'C' 'U' shape or irregular or folded	oval or circular or regular or not folded;
mp6	cartilage / chondrocytes	present	absent;
mp7	ref. to layers e.g. number of layers e.g. air spaces	more 3 present	less 1 absent;
mp8	contents or valve or nucleus	nothing absent present	present present absent;
mp9	ref. to thickness of wall e.g. ratio of thickness of any wall to lumen e.g. outer wall (Z)	thinner or thicker	thicker or thinner;

[max 5]

[1]

[Total: 19]