UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS GCE Ordinary Level

MARK SCHEME for the May/June 2012 question paper for the guidance of teachers

5090 BIOLOGY

5090/61

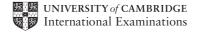
Paper 6 (Alternative to Practical), maximum raw mark 40

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 must be read in conjunction with the question papers and the report on the examination.

Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2012 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.



Page 2					eachers' version		Syllabus	Paper	
			GCE (LEVEL -	- May/June 2012		5090	61	
1	(a)	Initial Final Change	volume of doug A 20 51 31	gh / cm ³ B 20 34 14				[3]	
	(b)	 (i) volume / height (increases) more in A than B; more bubbles / gas in A / bubbles /gas evenly distributed in A or converse; (ii) respiration / respiring; 							
		aero carb	bic / anaerobic on dioxide (CO	; ₂) given of	f; reasing volume <i>A</i>	AW;		[3 max]	
	(c)	2 or more samples (of A) used / AW; same start volumes / amounts / height of dough used; at range of temperatures / different temps; suitable temperatures identified; left for same length of time; change (in volume) measured / compared AW; repeat / replicate / calculate the mean;							
2	(a)		ets drawn ;	tions at le	east 7cm length ;			[5 max]	
		midrib +	veins well draw	n on at lea	_			[4 max]	
		Labels	olade / margin ;		31. 31. 31.	,		[
		petiole / leaf stalk ;							
	(b)	 photosynthesis: (green) chlorophyll + ref to light (absorption); large surface area + ref. to light or gases; attached to stem / veins / midrib + transport of correctly named materials; leaf thin + fast diffusion / light penetration / gaseous exchange; 							
	(c)	(i) refe	ence to leaf clo	sing over	insect / leaf marg	ins forming tr	ap AW ;	[1]	
		(ii) nitra	te / (named) nit	rogen-con	taining compound	d / phosphate	;	[1]	
		(iii) enzy	mes / proteins	/ nucleic a	cids / DNA / cell r	membrane / d	chlorophyll / AT	P; [1]	
								[Total:12]	

		GCE	O LEVEL – May/June 2012	5090	61		
(a) (i)	(i) stamen / anther / pollen sac correctly indicated and named ;						
(ii)	stign	na correctly i	dentified and named ;		[1]		
Be he co	b) tissue prepared or sample taken ; Benedicts added ; heated / warmed ; colour changes described ;						
us	e of wa		[5]				
(c) (i)	time 0.0 2.0 4.0 6.0 8.0 10.0		length / mm (0) 18–20 23–25 28–30 34–36 41–43		[2]		
(ii)	grid plott	s;	[4]				
			best fit drawn ;				
(iii)	grow	th (rate) fast	er (at first) becoming constant / AW ;		[1]		
(d) to	wards	chemical / ho	rmone (in ovule) ;		[1]		

Mark Scheme: Teachers' version

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[Total: 15]

Paper

Syllabus

[Paper total: 40]