

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the June 2005 question paper

0610 BIOLOGY

0610/05

Paper 5 (Practical), maximum mark 40

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which Examiners were initially instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

• CIE will not enter into discussion or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the June 2005 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.



Grade thresholds for Syllabus 0610 (Biology) in the June 2005 examination.

	maximum	minimum mark required for grade:				
	mark available	А	С	Е	F	
Component 5	40	31	24	18	15	

The threshold (minimum mark) for B is set halfway between those for Grades A and C. The threshold (minimum mark) for D is set halfway between those for Grades C and E. The threshold (minimum mark) for G is set as many marks below the F threshold as the E threshold is above it.

Grade A* does not exist at the level of an individual component.



JUNE 2005

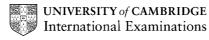
IGCSE

MARK SCHEME

MAXIMUM MARK: 40

SYLLABUS/COMPONENT: 0610/05

BIOLOGY (Practical)



	Page 1	Mark Scheme IGCSE – June 200	F		Syllabus 0610	Paper
1	(a)	raw higher than boiled; S1>S3 raw chopped highest; S2	and S2>S			5 [2]
	(b)	[Refer to candidate's results in (a) if r	not as exp	ected]		
		<u>Similarity</u> have, froth/bubbles/reaction/increase movement;	in volume	e/descripti	on of pota	to
		<u>Difference</u> S2 <u>more</u> vigorous than S1;				[2]
	(c)	(S3 has) no, reaction/froth/bubbles; (S4 has) <u>no/little</u> , reaction/froth/bubble	es;			
		[Refer to candidate's results in (a) if r 'they' or 'both' = 2 just 'no reaction' = max 1]	not as exp	ected.		[2]
	(d) (i)	 L labels for axes including units; S suitable scale; D data plotted; 	<u>change</u> (A) cm	c./descripti <u>e</u> in height i carried ov i if not sho	: <u>and</u> mm ver from ta	ible
		B bars separate and same width;				[4]
	(ii)	correct use of terminology;	(e.g.	substrate active site enzymes		ns)
		S1 and S2 cutting up the cube allowed <u>more</u> , (enzyme) catalas	e to escar	-	·	·
		idea of more active sites exposed; (e.g. more contact			-	
		S1 and S3 [assume referring to S3 unless other S1.] boiling/enzyme heated; denatured/destroyed; enzyme not able to, catalyse/break d	own hydro (A) r	·	kide; iing enzyn	-

Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – June 2005	0610	5

(e) use same potato;

use range of different sized cubes; (to give) different surface areas;

same/measure, mass of potato; (A) weight (R) amount

more accurate method of cutting; [detail = AVP] standardised chopping;

boil for longer; boil for different times;

set time for reaction; use assistant/alternative suggestion, for accurate time measurement;

use measured <u>volume</u> of hydrogen peroxide; [x³ or volume implied by apparatus] quantitative method of gas collection; (e.g. over water) means to accommodate greater quantity of foam/ method to obtain greater difference in foam height;

means of controlling temperature/monitor temperature and consequence; replicates;

AVP;;	[(R) pH or other factor affecting enzyme activity that is
	not relevant to this investigation]

[max 5]

[Total: 19]

	Page 3			Mark Scheme	Sy	llabus	Paper
			IGO	CSE – June 2005		0610	5
2	(a) (i)		petals and s				
		Labels		<u>r</u> stalk/receptacle/other na/style/ovary/ovule; nent/anther;	valid 'floral' la	bel;	[max 6]
	(ii)	length	of drawing (line	e) measured correctly (+ and clear me	-/- 2mm) <u>with </u> easurement lir		n;
		(their)		eir figures with no worki ÷ (their) specimen leng n; [max 1 dp	-		-
	(b) (i)	add Be heat/bo	, , ,	t; warmed even if reagent is corre	ct for 1 mark		[2]
	(ii)	add iod	line (solution);	[(R) if ref. to heat	/boil]		[1]

(c) (i)

test	observation
reducing sugar	(turns) orange/red; (A) green/yellow [See Supervisor's report]
starch	(stays) yellow/brown; (A) no change in <u>colour</u> iodine colour does not go blue-black
	[2]

 (ii) (reducing) sugar/no starch (present); source of energy; e.g. use; [for respiration/muscle contraction/flight/etc.] immediate/soluble/no digestion needed; [converse for starch]
 [max 3]

Page 4	Mark Scheme	Syllabus	Paper
	IGCSE – June 2005	0610	5

 (d) [answer should be written as 'doing' something] using different coloured flowers (A) shades (A) petals/ use some coloured shape to represent flower; same, species/shape/size; same insect species; counting insect visits; (A) 'how many' detail; keep named , condition/variable, constant; other, condition/variable;
 repeat (whole investigation); AVP;; (e.g. way of getting insects and flowers in proximity, use a

range of insects)

[max 4]

[Total: 21]