UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2007 question paper

0610 BIOLOGY

0610/05

Paper 5 (Practical Test), 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.

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 discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the May/June 2007 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.



Page 2		Mark Scheme	Syllabus	Paper
		IGCSE – May/June 2007	0610	05
(a) (i)	table design column/row, with heading for length; rows / columns, with headings for S1 and S2;		[2]	
(ii)	filling in their table measurement for 5 x S1 specimens entered into table; measurement for 5 x S2 specimens entered into table; Accept reasonable measurements. Zero for S1 = 0 units (in headings/main body of table [at least once in S1 and S2]);			[3]
(iii)	Allo Reje	omplete Table 1.1 w ecf. Allow correct rounding. ect mean calculated from only 1 measurement. ns calculated (whole number or 1dp);;		[2]
(b) (i)	Allo	w ecf if their measurements are reversed (i.e. if	S1 > S2)	
	2 r	germination/development, in S2 in warm; ef. root development/AW; eaf/shoot, development/AW; esta detached/testa split/cotyledons visible/AW;		
		no/little, development/germination, (of seeds) in S1 ioot/shoot, not extended outside testa/AW;	in cold ;	
	8 e	use of data for comparison; enzyme activity faster/optimum enzyme temperature letail; e.g. enzyme link to metabolism detail of enzyme action ref. food store	e, in warm/AW ;	[5 max]
(ii)	Max 2 if temperature kept the same for both groups (i.e. no difference between them) same, type/species, of seed; same size of dish; same volume of water; (A) soak for the same time keep, in dark/covered with foil/equal light conditions; same amount of oxygen; (grow for) same period of time; same number of seeds;			[3 max]
(c) (i)	biure	et;		[1]
(ii)	to c e	omplete Table 1.2 [see supervisor's report] purple/lilac; paler/lighter, purple/lilac; (A) blue/green/yellow/n	o change	[2]
(iii)		ollow on from Table 1.2, allow ecf	Č	
()		as more protein/S3 has less protein ;		[1]
				[Total: 19]

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Page 3	Mark Scheme	Syllabus	Paper
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2 (a) (i) drawing ~ clear outline;

proportions; (at least 5 cm, with pointed end and blunt end)

labels ~ anterior end/mouth/head; (at pointed end)

segment;

(cuticle/outer covering/'skin') colour;

[4 max]

(ii) (R) use larger specimens

observe living specimen;

remove from tube/remove lid/use thinner glass tube/AW;

good light source;

hold with, a pin/forceps/AW;

observe with a microscope; (R) magnifying glass

AVP; e.g. if moving, make sure that they are dead

[2 max]

(iii)

S4	S5
pale colour	darker colour
not/less, shiny	shiny
shape described	broader shape
segments	segments not visible
larger	smaller
AVP	AVP

[2 max]

(b) (i) insect/arthropod;

[1]

(ii) egg;

[1]

(iii) 6/3 pairs, of legs;

3 parts to body/head + thorax + abdomen;

compound eyes;

1 pair of antennae;

2/1 pair, of wings;

jointed limbs;

exoskeleton;

[3 max]

[5]

- (c) (i) A axes labelled + units; (temp. °C time days)
 - S orientation [temp on x axis] + scale increments equal;
 - P plot [of data for S5 to adult only];; 1 error = 1, 2 errors = 0
 - L clear unbroken line [not beyond plot points] ; (join dots / best fit)
 - (ii) 1 development quicker at higher temperatures;
 - 2 figs. [for same part of life cycle at different temp];
 - 3 ref. metabolism/enzyme activity/AW;
 - 4 ref. respiration;
 - 5 S5 to adult, quicker/takes less time, than S4 to S5;
 - 6 large difference at low temp/little difference at high temp; [3 max]

[Total: 21]