UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS GCE Ordinary Level

MARK SCHEME for the October/November 2010 question paper for the guidance of teachers

5090 BIOLOGY

5090/31

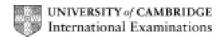
Paper 3 (Practical Test), maximum raw mark 40

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, 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.

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

CIE is publishing the mark schemes for the October/November 2010 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.



	ı age z		5000	31
		GCE O LEVEL - October/November 2010	5090	3 1
1	(a) (ii)	fault or variation may give odd result / confirms first reading / avoiding any errors; R: ref to accuracy / fair testing		[1]
	(iii)	·		[-1
	(111)	ref. to average / mean length;		
		(this can also be accepted in (ii) if not referred to here).		[2]
	(iv)	negative change in A ;		
		positive change in C ; means correctly calculated and stated;		
		(+) and – indicated in last column;		[4]
	(b) (i)	graph marks:		
		1. labelled (+) above, – below axis.		
		 x-axis labelled 'concentration / mol per dm³. y-axis labelled 'change in length / mm'. 		
		4. clear and accurate plotting of own data.		
		5. connections ruled / line of best fit.		[5]
	(ii)	accurately read from graph (±1 mm on x-axis); units (mol per dm³);		[2]
	(iii)	water potential the same (equal) / solution in cell(sap) same conas external (ambient) solution; isotonic; no net exchange of water;	centration	
		no change in length / size / dimensions;		[3 max]
		vestigate adjacent (more / different) values of concentration / using ore accurate measurement of strips; replication / more strips;	concentra	tion in (b) (ii) ;
		ure mass; longer time;		[3 max]
				[Total: 20]
2	(a) (i)	drawing marks:		
		 at least 6 cm, clear and realistic. legs (jointed / sections), wings (2), with one veined. 		
		3. segments (clear / complete) / head / eye / proboscis shown.		[3]
		labels: leg and wing; head / thorax / abdomen; segment;		
		proboscis / antenna;		
		eye;		[3 max]
	(ii)	better outline / clear(er) / shows more detail;		[2]

Mark Scheme: Teachers' version

Syllabus

Paper

[2]

holds in place / keeps flatter / spread out;

Page 2

Page 3	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2010	5090	31

(iii) shown where measured;

measurements with units once at least; correct calculation – drawing over specimen size; magnification well expressed;

R: 3 decimal places. [4]

(b) (i) wings; veined; eyes;

jointed / segmented; antennae;

legs; head / thorax / abdomen; [4 max]

(ii) comparable but contrasted pairs:

small size / 1 cm : large(r) / 10 cm; wings 2 (1 pair) : wings 4 (2 pairs);

delicate / thin /shorter : stronger / longer wings; small(er) head / eyes : larg(er) head / eyes;

small / thin / long legs : stout / stronger / short legs;

proboscis ; no proboscis

abdomen (tail) rounded ; abdomen (tail) pointed

long antenna ; short antenna

[4 max]

[Total: 20]