UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2012 question paper

for the guidance of teachers

0610 BIOLOGY

0610/53 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, 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.

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Question	Mark Scheme	Mark	Guidance I = ignore A = accept R = reject
1 (a) (i)	lines clearly divide columns ; lines clearly divide rows ; headings ; Units only in headings ;	[4]	
(ii)	overall decrease in both tubes ; 6 results in test-tube **A** ; 6 results in rest-tube **B** ;	Max [3]	
(iii)	A – axes labelled with suitable scale ; S – size ; P – plots accurate ; L – line ; K – key / means to identify both lines ;	[5]	must fill at least half the grid +/– 1 mm **A** point to point / smooth curve / line of best fit
(b)	*Description* overall temperature decreased in both tubes ; test-tube A greater loss in temperature ; *Explanation* air trapped between layers of paper in test-tube B ; (still) air is a good insulator / poor conductor of heat ; AW	Max [3]	Allow ecf from candidates results
(c)	two suitable sources of error ; ; two suitable improvements ; ;	[4]	Must relate to the method in the question. Improvement must relate to error.
(d)	<u>25</u> ;	[1]	
(e)	Correct lines and labels to: hair follicle ; fatty tissue ;	[2]	

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(f) (i)	length of line **PQ** on Fig.1.3 = 80 mm;	[1]	+/– 1 mm / 79 – 81
(ii)	formula – $\frac{\text{length of } \mathbf{PQ}}{\text{actual length}}$; magnification = 20 ;	[2]	**A** Ecf from f(i)
(g)	cobalt chloride paper ; (blue to) pink ;	[2]	
		[Total: 27]	
2 (a)	5 petals ; shape ; detail – attachment / honey guides / veins / AW ;	[3]	Check against Supervisor's Report
(b)	**Outline:** use of single clear lines for drawing ; **Size:** at least half of the space available ; **Detail:** sepals or receptacle shown; **Label:** stigma **and** style ;	[4]	**R** shading / cross hatching
(c)	***one*** *from:* large, (brightly) coloured or conspicuous flower ; petals ; honey guides ; central or enclosed stigma and style ; enclosed stamens ;	Max [1]	
(d)	Seed = ovule ; Fruit = ovary (wall) ;	[2]	

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(e)	***three*** *from:* feathery stigma ; light pollen ; exposed stigma and style ; a lot of pollen produced ;	Max [3]	
		[Total: 13]	

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