UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2006 question paper

0610 BIOLOGY

0610/05 Paper 5, maximum raw mark 40

These mark schemes are published as an aid to teachers and students, to indicate the requirements of the examination. They show the basis on which Examiners were initially instructed to award marks. They do 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*.

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

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

CIE is publishing the mark schemes for the May/June 2006 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

UNIVERSITY of CAMBRIDGE
International Examinations

1 (a) (i) use of ruled lines for columns and rows ;
table headings ;
units ; **3**

(ii) initial temperature and final temperature recorded ;
rise in temperature recorded ;
mass of **S1** and volume of water recorded ; **3**

(iii) rise in temperature substituted ;
other values substituted ;
correct value calculated ; **3**

(iv) answer to **(iii)** divided by 1000 ; **1**

(b) (i) heat, escapes to surroundings / does not all go to heating water ;
food does not all burn ;
gives lower estimate ; **max 2**

(ii) suggestion to direct heat ;
suggestion to insulate test tube ;
grind food ;
repeats and averages ; **max 2**

(c) (i) answer to **(a)(iv)** entered into table ; **1**

(ii) bar chart ;
axes labelled with units ;
data plotted accurately ;
ruler used and gaps between columns ; **4**

(iii) fat ;
linking **S1** value to the nearest food value ;
reason for value not being exact ; **max 2**

[Total : 21]

© University of Cambridge International Examinations 2006

2 (a) (i) Drawing ~ clear outline **S2** ;
at least 10cm in one direction ;
cotyledon or remains of seed shown ;
root and shoot shown ;

Labels ~ cotyledon / remains of seed ;
shoot ;
root ; **max 6**

(ii) length of drawing measured correctly (+/- 2mm) **with units and** clear measurement line shown ;

correct answer = 2 ticks = 2 marks
"drawing length ÷ specimen length" ;
correct x magnification ; **3**

(b) (i) ***S3 is ~***
paler ;
taller / longer stem ; **2**

(ii) light needed to make chlorophyll ;
lack of , light / chlorophyll ;
light inhibits growth ; **(*R*) *'growing up towards the light'***
ref. auxins ;
AVP ; **max 2**

(c) seedling / small plant ;
on its side ;
remove the effect of gravity ;
klinostat / turning plant regularly and frequently ;
control ;
one on its side but undisturbed ;
monitor curvature of root growth ;
practical detail ;
repeats ;
use of different species ;
AVP ; **max 6**

[Total : 19]

© University of Cambridge International Examinations 2006