UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2008 question paper

0654 CO-ORDINATED SCIENCES

0654/05 Paper 5 (Practical), maximum raw mark 45

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.

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1 **(a)** **(i)** good quality drawing, sharp pencil, clear outline;
leaves obviously wilted or 1 or more leaves partially shaded

(ii) lack of water (1)
water lost from leaves by <u>evaporation/transpiration</u>;
OR water not replaced through stem; [2]

(iii) stem of twig clearly shaded in; (may include part of leaf) [1]

(iv) wood/lignin provides support;
provides support even when water is scarce; [2]

(b) good quality drawing, sharp pencil, clear outline;
<u>xylem</u> clearly labelled in at least one place; [2]

(c) **(i)** wind speed /humidity/light intensity/availability of water [1]

(ii) put in environments of different temperatures;
for fixed time;
cut through stalks to see how high the dye has travelled;
fastest rate will be highest up the stalk; [4]

(iii) photosynthesis/turgor/transport (of minerals) [1]

[Total: 15]

2 **(a)** Table
Value for h_o must be in mm
Complete set of readings for 1st three columns (check they are sensible)
Mass correctly converted to Newtons
Extension correct for each set [4]

(b) axes correctly labelled lose this mark if masses are plotted
scale is sensible
plotting correct ignore zero
line is OK and it must pass through zero [4]

(c) correct from graph
mass to Newtons and read correctly [2]

(d) yes, (1) straight line shows proportionality (1) [2]

(e) add larger masses
see whether line departs from straight
sketch graph this must show steep rise in extension for small increase in force [3]

[Total: 15]

3 **(a)** **(i)** and **(ii)** A and C no reaction (A may give small amount of bubbles)
B fizzes

(b) **(i)** and **(ii)** A and C blue ppt. or equivalent
B no reaction/blue solution [2]

(c) A & B no reaction
C milky, cloudy etc [2]

(d) **(i)** fizzing

(ii) white ppt./cloudy/milky [2]

(e) A is sodium carbonate
B is sulphuric acid
C is limewater [1]

Each correct reason [3]

(f) add acid to each
count drops or measure
to turn indicator colour
most concentrated is one requiring most acid [3 max]

[Total: 15]