

## **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.

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

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- 1 (a) (i) good quality drawing, sharp pencil, clear outline;  
leaves obviously wilted or 1 or more leaves partially shaded [2]
- (ii) lack of water (1)  
water lost from leaves by evaporation/transpiration;  
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;  
xylem 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  $h_0$  must be in mm  
Complete set of readings for 1<sup>st</sup> 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]

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- 3 (a) (i) and (ii)** A and C no reaction (A may give small amount of bubbles)  
B fizzes [2]
- (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]**