UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the JUNE 2005 question paper

0654 CO-ORDINATED SCIENCES

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

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which Examiners were initially instructed to award marks. It does 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*.

• CIE will not enter into discussion or correspondence in connection with these mark schemes.
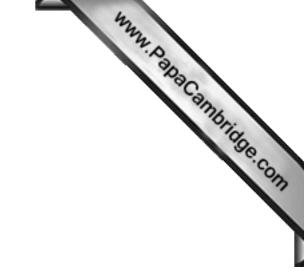
CIE is publishing the mark schemes for the June 2005 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

Grade thresholds taken for Syllabus 0654 (Co-ordinated Sciences) in the June 2005 examination.

	maximum mark available	minimum mark required for grade:			
		AA	CC	EE	FF
Component 5	45	36	27	19	14

The threshold (minimum mark) for B is set halfway between those for Grades A and C.
The threshold (minimum mark) for D is set halfway between those for Grades C and E.
The threshold (minimum mark) for G is set as many marks below the F threshold as the E threshold is above it.
Grade A* does not exist at the level of an individual component.

June 2005

IGCSE

MARK SCHEME

MAXIMUM MARK: 45

SYLLABUS/COMPONENT: 0654/05

CO-ORDINATED SCIENCES
Paper 5 (Practical Test)

1 (a) (i) good quality diagram, clear, sharp pencil used, reasonable correspon... supervisor's diagram

    (ii) sepal labelled correctly
protects flower in bud [2]

(b) (i) good quality diagram of a petal as in **(a)(i)** above
good quality diagram of a stamen as in **(a)(i)** above [2]

    (ii) anther correctly labelled [1]

    (iii) reasonable values for lengths (drawn length can be checked and should be within 1 mm). Do not give this mark if X is not marked. Penalty if measured in units other than mm [2]

    (iv) magnification = <u>length of drawing</u> or evidence of use of formula
                     length of original

       numerically correct answer [2]

(c) any suitable feature e.g. **brightly** coloured petals, large petals, anthers and stigma inside flower

corresponding explanation e.g. bright or large petals attract insects, reproductive organs inside flower so insects brush against them etc. [2]

(d) separate petals and grind up (with water)
add Benedict's solution and **heat**
red colour indicates reducing sugar [3]

                                                        Total 15

2 If any values are not recorded in mm, apply a penalty of one, but apply only once

(b) height of rule above the floor is 40-50 mm less than h_o [1]

Table

masses to nearest gram

value of h_o is sensible and fits value in **(b)**

each mass of plasticine is similar (if all the same, do not give this mark)

total mass correct

four values of h besides h_o with deflections, so long as h decreases

deflections are correct [6]

Graph

axes correct, labelled with units

suitable scale

plotting correct

line is **straight** and does or would go through origin [4]

(h) one for each correct reading (only if line is straight) [2]

(i) proportional [1]

(j) they would be smaller [1]

Total 15

3 **(a)-(e)**

at least one temperature is measured to 0.5 (.0 or .5) [1]

initial temperatures within are consistent with each other [1]

temperature changes   up to $5°$ +/-1
                                up to $10°$ +/-2
                                up to $20°$ +/-3
                                above $20°$ +/-5 [4]

observation for C correct i.e. spill pops [1]

Any other correct observation for any other metal e.g. bubbles [1]

(f) **(i)** hydrogen is named [1]

    (ii) only acceptable answer is **C** [1]

    (iii) two reasons given, one for each [2]

    (iv) answer to tie in with results but **C** must be first and **D** last unless supervisor has indicated otherwise [1]

(g) put **E** into aqueos $CuSO_4$ if reaction etc. OR if not reaction etc. [2]

Total 15