UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2010 question paper

for the guidance of teachers

0653 COMBINED SCIENCE

0653/52 Paper 52 (Practical Test), maximum raw mark 30

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.

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

CIE is publishing the mark schemes for the May/June 2010 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

1 **(a)** measurements entered correctly;
and clearly in mm; [2]

(b) correct method for calculating average;
correct answer according to candidate's data; [2]

(c) range calculated correctly according to student's data; [1]

(d) correct number of complete squares;
correct number of greater-than-half incomplete squares;
correct calculation of area; [3]

(e) any suitable factor + explanation
e.g.
variation in light intensity/carbon dioxide;
gives different rates of photosynthesis;

can also have different water/mineral availability [2]

[Total: 10]

2 **(a)** mass of can to nearest gram; [1]

(b) recorded to nearest 0.5 ^{o}C; [1]

(c) **(i)** sensible temperature measured to 0.5^{o}C; [1]

(ii) sensible volume of water; [1]

(iii) mass of water, $\mathbf{m_2}$; [1]

(d) each correctly calculated; [2]

(e) correct substitution;
correct calculation;
comparison with supervisor; [3]

[Total: 10]

3 **(a)** all readings for 4 experiments;;
one mark if any space in the timing columns [2]

(b) values across table increase;
values down each column decrease; [2]

(c) sensible scale;
plotting correct;
suitable curve drawn; [3]

(d) rate increases with concentration;
more gas at any given time with the 2 M; [2]

(e) gas still being released; [1]

[Total: 10]