

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2006 question paper**

**0653 COMBINED SCIENCE**

**0653/05** Paper 5 (Practical Test), maximum raw mark 30

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 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.

The grade thresholds for various grades are published in the report on the examination for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses.

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

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- 1 (a) sensible starting values for tubes **A** and **B** [1]  
 readings have descending values for both tubes, [1]  
 sharp drop to start [1]  
 temperatures for tube **B** reaching much lower than **A** [1]
- (b) (i) suitable scales with labels [1]  
 correct plotting [1]  
 drawing two smooth curves [1]
- (ii) **B** cools faster [1]
- (iii) air is trapped [1]  
 air is a poor conductor/good insulator of heat [1]
- [Total 10]
- 2 (a) (i) distance of 70 or 71 mm [1]  
 Measurements clearly in mm  
 x values are spaced by 4-6mm  
 y values steadily decrease as x increase [3]
- (b) (i) Graph  
 Axes labelled correctly  
 Sensible scales chosen  
 Plotting correct  
 Best straight line. This mark not awarded if line is not straight or is the wrong line. No marks for **(b)(ii)** [4]
- (ii)  $y_0$  correctly determined  
 value is between 73 and 75 [2]  
 no marks here if the line above line mark is not awarded
- [Total 10]
- 3 (a) solid **A** fizzing/effervescence [1]
- (b) solid **A** no reaction or dissolves  
 solid **B** red litmus blue, therefore ammonia [3]
- (c) solid **B** no reaction (allow slight white ppt.)  
 solid **C** white ppt., soluble in excess [3]
- (d) solid **A** is an acid because fizzes with sodium carbonate  
 solid **B** is a base because it liberates ammonia with  $\text{NH}_4^+$   
 solid **C** is a salt because it precipitates with aq. ammonia or by deduction [3]
- [Total 10]