

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

**MARK SCHEME for the October/November 2009 question paper  
for the guidance of teachers**

<p style="text-align: center;"><b>0653 COMBINED SCIENCE</b></p> <p><b>0653/05</b>                      Paper 5 (Practical Test), maximum raw mark 30</p>
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- 1 (a) good quality of drawings ;  
chlorophyll label ;
- (c) leaf **B** and **C** same shape as in part (a) ;  
leaf **A** only one containing starch, correctly labelled ; ignore small traces of starch in **B** and **C**  
pattern of starch matches chlorophyll pattern in (a) ; [3]
- (d) (leaf **A** starch present)  
light and carbon dioxide both needed (for photosynthesis) ;  
starch only found where chlorophyll is ;
- leaf **B**  
no photosynthesis because carbon dioxide is absent ;  
do not allow if stated that water also absent
- leaf **C**  
no photosynthesis because light is absent ; [4]
- (e) to remove carbon dioxide ; OWTTE [1]

[Total: 10]

- 2 (a) recording the refractive index ; [1]
- (d) 5 suitable drawings ;;  
Give ONE mark if only 4 (2)
- Table  
angles of **i** are about 60°, 55°, 40°, 30° and 20° and **r** values ;;  
ONE mark if only 4 values (2)
- angles of **r** decrease appropriately ; (1) [5]
- (e) Graph  
scale ;  
plotting ;  
suitable curve ; [3]
- (f) correctly read from graph ; [1]

[Total: 10]

Page 3	Mark Scheme: Teachers' version	Syllabus	
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- 3 (a) accept anything between 0.03 and 0.08 ;
- (c) results for all three ;  
value for **B** is half **A** within 2 drops ;  
value for **C** is half **B** within 2 drops ;  
value for **C** within 2 drops of Supervisors value ; [4]
- (d) most concentrated is **A** ;  
needs the largest number of drops ; [2]
- (e) brown ppt. ; [1]
- (f) green ppt. ; [1]
- (g) one mark for iron(II) ; [1]

[Total: 10]