

**CAMBRIDGE**  
INTERNATIONAL EXAMINATIONS

**NOVEMBER 2002**

**INTERNATIONAL GCSE**

**MARK SCHEME**

**MAXIMUM MARK : 30**

**SYLLABUS/COMPONENT : 0653/5**

**COMBINED SCIENCE  
(PRACTICAL TEST)**



UNIVERSITY of CAMBRIDGE  
Local Examinations Syndicate

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Q1

- |        |                                                                                                                                          |   |
|--------|------------------------------------------------------------------------------------------------------------------------------------------|---|
| (a)(i) | Both answers should be within 3mm of each other and less than 8cm.<br>Not more than 3mm on average different from SV                     | 2 |
| (ii)   | correct calculation                                                                                                                      | 1 |
| (iii)  | correctly calculated                                                                                                                     | 1 |
| (b)    | Both answers should be within 3mm of each other and at least 8cm.<br>Not more than 3mm on average different from SV                      | 2 |
| (c)    | solution A lower water potential than potato cells<br>water moves out of potato by osmosis                                               |   |
|        | solution B higher water potential than potato cells/same water potential as<br>cells; water moves into potato by osmosis/no net movement | 4 |

total 10

Q2

- |        |                                                                           |   |
|--------|---------------------------------------------------------------------------|---|
| (a)(i) | correct conversion to kg                                                  | 1 |
| (ii)   | correct value                                                             | 1 |
| (b)    | mass between limits<br>weighed to nearest 0.1g                            | 2 |
| (ii)   | both temperatures to nearest 0.5 C<br>any drop in temperature             | 2 |
|        | temperature change correct 2.5g gives 6.0°C fall<br>3.0g gives 7.0°C fall |   |
|        | two marks if within 1°C<br>allow one if within 2°C                        | 2 |
| (iii)  | correctly calculated                                                      | 1 |
| (c)    | endothermic because temperature falls                                     | 1 |

|               |                                           |                 |              |
|---------------|-------------------------------------------|-----------------|--------------|
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Q3.

(b) Has five results

Good spread of temperatures

Within 10secs of SV for 35°C

Within 2 secs of SV at 65°C

All points for curve within 2 secs of curve

5

(d) Graph

Scale is sensible

Plotting correct

Acceptable curve

3

(e) surround reagents in ice

repeat experiment as above

2

total 10