

## **MARK SCHEME for the May/June 2006 question paper**

### **9700 BIOLOGY**

**9700/03**

**Paper 3**

**Maximum raw mark 25**

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*.

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

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

CIE is publishing the mark schemes for the May/June 2006 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

|               |                                       |                 |              |
|---------------|---------------------------------------|-----------------|--------------|
| <b>Page 1</b> | <b>Mark Scheme</b>                    | <b>Syllabus</b> | <b>Paper</b> |
|               | <b>GCE A/AS Level – May/June 2006</b> | <b>9700</b>     | <b>03</b>    |

| <b>Question</b>    | <b>Expected Answers</b>  | <b>Marks</b>   | <b>Additional Guidance</b>   |
|--------------------|--|--|--|
| <b>1 (a) (i)</b>   | Equal volume test solution and Benedicts/excess Benedicts;<br>Boil/heat in water bath above 80 °C;   | <b>1</b><br><b>1</b>   | Reject direct heat   |
| <b>(ii)</b>        | X lowest sugar conc e.g. green/blue  | <b>1</b>   |  |
| <b>&amp; (iii)</b> | Y highest sugar conc e.g. red;<br>Z medium sugar conc e.g. yellow orange/brown;  | <b>1</b><br><b>1</b>   |  |
| <b>(iv)</b>        | Y top Z middle and X bottom;   | <b>1</b>   |  |
| <b>(b) (i)</b>     | P no or little sugar/blue/green/yellow;<br>Q more sugar than P/green/yellow/brown;   | <b>1</b><br><b>1</b>   | Accept answers with P similar to Q as old potatoes may contain sugars  |
| <b>(ii)</b>        | P closest to X or Z with explanation;<br>Q closest to Y or Z with explanation;   | <b>1</b><br><b>1</b>   |  |
| <b>(c)</b>         | Three from:<br>Same volumes of solutions/reagents;<br>Same volumes of tissue;<br>Heat for same time;<br>Method for comparing colours;<br>Same temperature of water bath;<br>Replication; | <b>max 3</b>   |  |
|                    | <b>Total</b>   | <b>13</b>  |  |
| <b>2 (a) (i)</b>   | Quality of drawing;<br>Crinkled inner lining;<br>Ratio of wall to lumen between 1:4 – 1:8;<br>Correct label;   | <b>1</b><br><b>1</b><br><b>1</b><br><b>1</b>                         | Slide is TS rat aorta  |
| <b>(ii)</b>        | Correct mag (actual size 1 mm) ± 10%;<br>Measure specimen and measure drawing;<br>Divide drawing by specimen;  | <b>max 2</b>   |  |
| <b>(b)</b>         | Artery thick wall;<br>Withstand pressure/muscular;<br>Vein larger lumen;<br>To ease blood flow;<br>Artery more round in shape;<br>Vein lacks muscles/support structures;                 | <b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b><br><b>1</b> | Either way round<br><br>Accept artery has crinkles inner surface to allow expansion even though not visible in pm. |
|                    | <b>Total</b>   | <b>12</b>  |  |
|                    | <b>Total</b>   | <b>25</b>  |  |