



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

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**BIOLOGY**

**0610/53**

Paper 5 Practical Test

**October/November 2010**

CONFIDENTIAL INSTRUCTIONS

**Great care should be taken to ensure that any confidential information given does not reach the candidates either directly or indirectly.**

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**READ THESE INSTRUCTIONS FIRST**

If you have any problems or queries regarding these Instructions, please contact CIE

by email [International@cie.org.uk](mailto:International@cie.org.uk)

by phone +44 1223 553554,

by fax +44 1223 553558

stating the Centre number, the nature of the query and the syllabus number quoted above.

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This document consists of **6** printed pages and **2** blank pages.



**READ THESE INSTRUCTIONS FIRST**

These instructions give details of the apparatus required by each candidate for each experiment in this paper. A summary of the questions that will be presented to the candidates is included, where appropriate, to allow the Biology teacher to test the apparatus appropriately. **No access to the question paper is permitted in advance of the examination.** Centres are reminded that candidates are expected to follow the instructions on the question paper and record all their results. They will not be penalized if these results are not what they expect.

The Supervisor should make sure the Supervisor's report is fully completed and a copy is enclosed with each packet of scripts.

It is assumed that the ordinary apparatus of a science laboratory will be available, including a supply of purified water (distilled or deionised).

If arrangements are made for different sessions for different groups of candidates, care must be taken to ensure that the different groups of candidates are effectively isolated so that **no information passes between them.**

**All specimens should carry only the code letters and numbers as indicated and their identity should not be revealed to the candidates.**

Supervisors should ensure that all specimens have the correct identity attached to the specimen and that these are **not** removed during the examination.

If a candidate breaks any of the apparatus, or loses any of the material supplied, the matter should be rectified and a note made in the Supervisor's Report.

Supervisors are advised to remind candidates that **all** substances in the examination should be treated with caution. Pipette fillers and safety goggles should be used where necessary.

In accordance with COSHH (Control of Substances Hazardous to Health) Regulations, operative in the UK, a hazard appraisal of the examination has been carried out.

The following codes are used where relevant

**C** = corrosive substance

**F** = highly flammable substance

**H** = harmful or irritating substance

**O** = oxidising substance

**T** = toxic substance

**N** = harmful to the environment

Centres are reminded that they are **not** permitted to open the question paper envelopes before the examination. Centres are also referred to the Handbook for Centres, and in particular Section 3.1.2 © (i), Security of Question Papers and Examination Materials, as well as 3.3.11.1, Practical Examinations in Science Subjects.

If there are any difficulties with any aspect of setting up this practical examination that the Centre is not able to resolve, it is essential for Centres to contact the Product Manager as soon as possible by e-mail to [international@cie.org.ukm](mailto:international@cie.org.ukm), by fax to +44 1223 553558 or by phone to +44 1223 553554.

**Question 1**

Each candidate should be provided with:

- (i) Three pieces (quarters) of apple, labelled **W1**, **W2** and **W3**.

Three batches of apples need to be obtained on different days and stored. They should be kept unwrapped in dry conditions.

The apples should **not** be stored at low temperatures such as in a fridge.

The apples need to be of the same variety or type.

Apples for **W1** should be obtained three weeks before the day of the examination. These apples should appear wrinkled on the outer skin on the day of the examination.

Apples for **W2** should be obtained one week before the day of the examination.

Apples for **W3** should be obtained a day before the day of the examination. These apples should be firm and crunchy.

Cut the apples vertically into quarters on the day of the examination.

Place the quarters into dishes labelled **W1**, **W2** and **W3**.

- (ii) white tile:
- (iii) iodine solution and means of dispensing, labelled **iodine solution**.
- (iv) 3 test-tubes supplied in a rack or container to support them.
- (v) small container of cold water, labelled **water**.
- (vi) means to label test-tubes.
- (vii) test-tube holder.
- (viii) hot water provided in an insulated container, such as a polystyrene cup. The temperature of water should be **at least** 90 °C. Candidates should be given this hot water when they request it.
- (ix) Benedict's solution (or an alternative) and means of dispensing, labelled **Benedict's solution** (or alternative).
- (x) knife to cut samples from apples.
- (xi) a medium (HB) pencil, sharp, that will make clear dark grey or black marks on paper.

**Question 2**

Each candidate should be provided with:

- (i) a complete shell of a bivalve, to be labelled **W4**.  
The two valves of the shell must be attached to each other. If the valves are separate then they may be glued together. The valves do not have to be open but the animal must not be present inside.
- (ii) two test-tubes each containing 5 cm<sup>3</sup> hydrogencarbonate indicator solution.  
  
one tube containing yellow indicator solution [add a drop of dilute acid], labelled **A**.  
  
the other tube containing purple indicator solution [add a drop of dilute calcium hydroxide solution], labelled **P**.
- (iii) a container or rack to hold the test-tubes.
- (iv) the pencil from question 1.



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This form should be completed and sent to the Examiner with the scripts.

**REPORT ON PRACTICAL BIOLOGY**

**IGCSE**

**October/November Session 2010**

*The Supervisor or Teacher responsible for the subject should provide the following information.*

- 1** Was there any difficulty experienced in providing necessary material? If so, give brief details.

**Question 1** Please report on variety of apple used and provide a set of results as in the table.

Variety of apple used .....

	<b>W1</b>	<b>W2</b>	<b>W3</b>
appearance			
texture			
starch test			
reducing sugar test			

**Question 2** Name or sketch outline of mollusc provided .....

- 2** Give details of any difficulties experienced by particular candidates, giving names and candidate numbers. Reference should be made to:
- (a) difficulties with specimens or materials;
  - (b) accidents to apparatus or materials;
  - (c) any other information that is likely to assist the Examiner, especially if this cannot be discovered from the scripts.



Other cases of individual hardship e.g. illness or disability, should be reported direct to CIE on the normal 'Special Consideration Form' as detailed in Part 6 of the Handbook for Centres.

- 3 A plan of work benches, giving details of the candidate numbers of the places occupied by the candidates for each session, must be enclosed with the scripts. The space below can be used for this, or it may be on separate paper.

**Declaration** (to be signed by the Principal)

The preparation of this practical examination has been carried out so as to maintain fully the security of the examination.

Signed .....

Name (in block capitals) .....

Centre number .....

Centre name .....

If scripts are required by CIE to be despatched in more than one envelope, it is essential that a copy of the relevant Supervisor's report and the appropriate seating plan(s) are inside **each envelope**.

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