



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

BIOLOGY

0610/52

Paper 5 Practical Test

May/June 2010

CONFIDENTIAL INSTRUCTIONS

1 hour

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

READ THESE INSTRUCTIONS FIRST

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

by email 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.

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



READ THESE INSTRUCTIONS FIRST

These instructions give details of the apparatus, reagents and specimens required by each candidate for each experiment in this paper. A summary of the questions that will be presented to candidates is included, where appropriate, to allow the teacher to test the apparatus appropriately. **No access to the question paper is permitted in advance of the examination.**

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

Question 1

Each candidate must be provided with:

- (i) a small mirror
- (ii) approximately 20 g of fresh shredded green leaves, e.g. cabbage / lettuce, provided in a shallow dish or on a plate, labelled **S1**.
- (iii) approximately 20 g of cooked green leaves of the same species
These need to be cooked for 10 to 15 minutes in boiling water not steamed or cooked in a microwave oven. The leaves should then be rinsed in cold water and provided in a shallow dish or on a plate, labelled **S2**.
- (iv) sharp knife or scalpel
- (v) forceps
- (vi) white tile
- (vii) iodine solution and means of dispensing, labelled accordingly
- (viii) 2 test-tubes
- (ix) test-tube holder
- (x) water bath for hot water. A suitable container to take a supply of hot water can be used and filled when candidates are ready.
- (xi) Benedict's solution (or an alternative) and means of dispensing, labelled accordingly
- (xii) paper towels
- (xiii) sight of clock
- (xiv) container with water, labelled **water**

Question 2

Each candidate must be provided with:

- (i) a branch of a dictotyledon with 10 simple (not compound) leaves attached, labelled **S3**

The blade of the largest leaf should not be longer than 10 cm.

The branch should be small with the 10 leaves showing a range of size; the arrangement of leaves can be opposite, alternate or spiral.

The species needs to be recorded on the Supervisor's report along with a simple sketch of the lower surface of a typical leaf.

- (ii) ruler with mm

- (iii) a sharp knife or scalpel as provided in Question 1

- (iv) a medium (HB) pencil that will leave clear grey/black marks on the paper, sharpened.

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

REPORT ON PRACTICAL BIOLOGY

IGCSE

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

- 1 Please identify **S1**, **S2** and **S3**. Please include a simple sketch of the lower surface of a typical leaf of **S3**.

S1 and S2

S3

- 2 Please state the colours produced by **S1** and **S2** when tested for the presence of reducing sugar.

S1

S2

- 3 Was any difficulty experienced in providing the necessary materials? If so, give brief details.

- 4 Give details of any difficulties experienced by particular candidates, giving names and candidate numbers. Reference should be made to:

(a) difficulties arising from faulty specimens;

(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.

Information that applies to all candidates need only be given once.

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.



- 5 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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