

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

BIOLOGY

0610/05

Paper 5 Practical Test

October/November 2004

1 hour

CONFIDENTIAL INSTRUCTIONS

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

Instructions for preparing apparatus

These instructions detail the apparatus required by each candidate for each experiment in this paper. A summary of the questions that will be presented to the candidate 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 session.**

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.

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.**

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 the 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

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

by e-mail: International@ucles.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 **2** printed pages and a Supervisor's Report.



Each candidate must be provided with the following apparatus and materials:

Question 1

- (i) 2 sections from a ripe banana, each approximately 2 cm in length, labelled **W1**, presented on clean dish so that the lower surface is in contact with the dish. Do **not** peel.

A cut banana should become brown within 30 minutes.

This should be tried out well in advance of the examination. If the banana does not change colour, find an alternative. If the banana has to be replaced, Irish potato or yam can be substituted. Do not store in a refrigerator. Please note any replacement on the attached report.

Fresh pieces of **W1** must be cut and laid out between 30 to 45 minutes before the examination is due to commence.

- (ii) 4 large test-tubes
- (iii) test-tube rack to support the tubes
- (iv) wax pencil or marker
- (v) 2 clean dishes, one labelled **A**, the other labelled **B**
- (vi) metal cutting knife for cutting the plant tissue
- (vii) white tile
- (viii) 2 strips of universal indicator paper each approximately 5 cm in length
- (ix) universal indicator pH colour chart [this may be shared between candidates]
- (x) 3 dropping pipettes
- (xi) 10 cm³ ethanoic acid [colourless vinegar], labelled as **A1**, presented in a small beaker [avoid coloured vinegars]
- (xii) 10 cm³ 5% sodium hydrogen carbonate solution, labelled as **B1**, presented in a small beaker
- (xiii) iodine solution in a dropping bottle labelled 'iodine solution'
- [H] (xiv) reagent or reagents for biuret test (potassium hydroxide and 1% copper sulphate) labelled 'biuret reagent' or 'biuret reagents', as familiar to candidates
- (xv) a stopclock or view of a clock.

Question 2

- (i) a pinnate leaf labelled **W2**. This might be a rose, bean [without tendrils], any species of Fraxinus, Sorbus, etc. Please identify and sketch the leaf provided on the attached report. The leaf must be carefully removed to include the base of the petiole for the stipules or axillary bud and have at least 3 pairs of leaflets arranged along the rachis.
- (ii) a ruler (mm)
- (iii) a hand lens.

Safety

Teachers are expected to instruct candidates to take such precautions as are laid down or advised by their Education/Authority/School or College.

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. Carry out the iodine and biuret tests on plant tissue **W1** and record your results below.

iodine test	result	biuret test	result
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2. Please identify and describe by means of a simple sketch, the type of leaf provided to candidates as specimen **W2**.
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.

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 sent inside **each envelope**.

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