

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

**BIOLOGY**

**5090/03**

Paper 3 Practical Test

October/November 2005

**1 hour 15 minutes**

**CONFIDENTIAL INSTRUCTIONS**

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

**Instructions for preparing apparatus**

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 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.

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](mailto: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.



**Instructions to Supervisors**

Each candidate must be supplied with:

## Question 1

- (i) Specimen labelled **W1**. An onion 'set' or similar small onion bulb approximately 4–5 cm long and 3 cm in diameter. The outer, papery scale leaves should be present.
- (ii) Specimen labelled **W2**. A disc of carrot, as fresh and young as possible, approximately 1.5 cm thick.
- (iii) scalpel.
- (iv) white tile.
- (v) iodine in potassium iodide solution, labelled 'iodine solution' and with suitable dispenser.
- (vi) Benedict's solution, labelled, with dispenser.
- (vii) Waterbath or other suitable means of heating for reducing sugar test.
- (viii) 2 test-tubes.
- (ix) test-tube rack and test-tube holder.

Additional material for question 2.

- (i) Specimen labelled **W3**. A short piece of stem of *Selaginella*, approximately 2 cm long. If this is not available a stem of a moss that has well defined leaves or of the pondweed *Elodea* or *Egeria*. This specimen should be as fresh as possible and should be presented in a covered dish.
- (ii) an unused microscope slide.
- (iii) square cover glass / cover slip.
- (iv) piece of filter paper.
- (v) forceps.
- (vi) scissors.
- (vii) mounted needle or seeker.
- (viii) hand lens, x 10 preferably.
- (ix) supply of water, with teat pipette.
- (x) iodine solution (from question 1).
- (xi) ruler, mm.
- (xii) sight of clock.

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

**REPORT ON PRACTICAL BIOLOGY**

**General Certificate of Education Ordinary Level**

**October/November Session 2005**

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

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

If *Selaginella* has not been used, the supervisor must complete question 2(a)(i), 2(b) and 2(c)(i) on an unused script and return this in the envelope with the candidate's scripts.

- 2 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.



- 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 sent inside **each envelope**.

