

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

**BIOLOGY**

**5090/03**

Paper 3 Practical Test

May/June 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 provided with the following apparatus and materials.*

### To be supplied by the Centre

#### Question 1

Each candidate will require:

- (i) Small plane mirror.
- (ii) Ruler that measures in millimetres, at least 300 mm long.

If any centre has a candidate who is blind in the right eye, please contact Dr Rick Nelms at CIE well before the examination.

#### Question 2

Each candidate will require:

- (i) A soft dicotyledenous leaf such as pelargonium or bougainvillea, labelled **S1** that has been kept attached to the parent plant and been in the light for at least twenty-four hours so that it will produce a positive result when tested for starch.

A leaf labelled **S2** that has been kept in the dark for at least forty-eight hours so that it will produce a negative result when tested for starch.

Centres are advised to have tested samples of the leaves for the correct result well beforehand.

- (ii) Test-tube rack with two large boiling-tubes (test-tubes), one third full of industrial alcohol (e.g. industrial methylated spirit) and labelled as **Tube 1** and **Tube 2** with a permanent marker.

Each test-tube should be stoppered with cotton wool.

- (iii) 200 cm<sup>3</sup> beaker.
- (iv) 200 cm<sup>3</sup> of boiling water available for each candidate. Candidates will raise their hand when they are ready to receive this water. The supervisor should take the water to the candidate (e.g. in a jug or kettle) and half fill the beaker. Great care should be taken when moving the boiling water around the laboratory. There should be no naked flames in the laboratory.
- (v) Iodine in potassium iodide solution with a dropper pipette labelled **iodine solution**.
- (vi) Forceps.
- (vii) Stirrer e.g. spatula, wooden spill or glass rod, that is at least 5 cm longer in length than the test-tubes.
- (viii) White tile or similar surface.
- (ix) Water proof marker pen or means of labelling the tile.
- (x) Sight of clock or stop clock or watch with second hand.

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- 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**.

