

CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

BIOLOGY

5090/03

Paper 3 Practical Test

October/November 2003

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,

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.



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

Question 1

- (i) A pod of **mangetout** pea (also called sugar-snap pea or sugar pea), or an immature pod of a legume such as pea or bean, with calyx still attached, labelled **W1**. A sample of W1 must be opened to check that the seeds and their attachment to the pod can be clearly seen, and the sample then destroyed. The supervisor's report must state the type of legume pod provided. The teacher of the subject present at the start of the test must complete question 1(a)(i) to (iii) on an unused, spare script, clearly labelled with 'teacher's results' and the Centre number, and return this in the envelope with the candidate's scripts.
- (ii) Iodine solution, labelled as such, with dropper or glass rod.
- (iii) A scalpel.
- (iv) A white tile.
- (v) A hand lens.
- (vi) A mm ruler.
- (vii) Sight of a clock.

Question 2 – additional materials

- (i) A leaf, ovate with smooth margin, 7 cm–10 cm long, labelled **W2**.
- (ii) A small, dicotyledonous leaf or leaflet, labelled **W3**. This must be as fresh as possible; a sample must be tested in advance to ensure that air is seen to escape from the lamina when it is immersed in hot water (70 °C–80 °C). This sample should then be discarded.
- (iii) A pair of forceps.
- (iv) A beaker for hot water.
- (v) A supply of hot water (70 °C–80 °C) to be given to candidates on demand.

Spares of specimens and apparatus should be readily available.

The Supervisor's Report is to be filled in on the back page of the first candidate's script. Please ensure that this is done.