



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

**BIOLOGY**

**5090/31**

Paper 3 Practical Test

**May/June 2010**

CONFIDENTIAL INSTRUCTIONS

**1 hour 15 minutes**

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



If you have any problems or queries regarding these Instructions, please contact CIE  
by e-mail: 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 **4** printed pages, **2** blank pages and a Supervisor's Report.



## 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

**Confidential Instructions**

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

**Question 1**

Each candidate will require:

- (i) Two 6 cm slices of an unripe (green) banana, labelled **S1** and provided on a flat surface. Leave the 'skin' intact.
- (ii) Two 6 cm slices of a ripe (yellow, speckled brown) banana, labelled **S2**, to be provided on a flat surface. Leave the 'skin' intact.
- (iii) 2 large test-tubes.
- (iv) Sharp knife or scalpel.
- (v) White tile.
- (vi) Iodine solution in shallow dish.
- (vii) Paper towels.
- (viii) Benedict's solution in a labelled container, with dispenser.
- (ix) Water bath.
- (x) Test-tube holder.
- (xi) 2 beakers, each containing 100 cm<sup>3</sup> dilute acid, each labelled **S3**.
- (xii) 2 beakers, 100 cm<sup>3</sup>.
- (xiii) Forceps.
- (xiv) Sight of a clock.
- (xv) Means of labelling beakers, e.g. felt tip pen or marker pen or labels. If a pen is provided, this may also be used in Question 2.

**Question 2**

Each candidate will require:

- (i) One preserved ground-living beetle (largest available), labelled **S4**.
- (ii) Hand lens  $\times 10$  if possible.
- (iii) Paper or opaque plastic bag containing 50 dry beans, e.g. butter beans, labelled **S5**.
- (iv) Means of marking the beans, e.g. felt tip pen, permanent marker pen.
- (v) Ruler (mm).



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- 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**.

