



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**BIOLOGY**

**0610/05**

Paper 5 Practical Test

**May/June 2007**

CONFIDENTIAL INSTRUCTIONS

**1 hour**

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

**READ THESE INSTRUCTIONS FIRST**

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

by e-mail [International@cie.org.uk](mailto: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.

\* 5 8 1 0 5 4 8 9 0 6 \*

This document consists of **4** printed pages, **2** blank pages and **1** Supervisor's Report.



**READ THESE INSTRUCTIONS FIRST**

These instructions give details of the apparatus, reagents and specimens required by each candidate for each experiment in this paper. A summary of the questions that will be presented to candidates is included where appropriate, to allow the teacher to test the apparatus appropriately. **No access to the question paper is permitted in advance of the examination.**

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.**

**All specimens should carry only the code letters and numbers as indicated and their identity should not be revealed to the candidates.**

Supervisors should ensure that all specimens have the correct identity attached to the specimen and that these are **not** removed during the examination.

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.

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 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

**Question 1**

Use mung beans or similar small viable dried bean seeds.

*Each student will need*

- (i) 2 shallow containers, such as one half Petri dishes [lid or base], wrapped in foil, labelled **S1** and **S2**.

Pre-soak all mung bean seeds in water for a few hours.

**S1** to contain 5 soaked mung bean seeds on moist paper tissues.

Leave in a refrigerator for 3 days prior to the examination.

**S2** to contain 5 germinated mung bean seedlings on moist paper tissues.

These should be germinated in a warm place at 20-30 °C in the dark until they are about 5 cm in overall length. When the seedlings exceed 5 cm in overall length transfer to a refrigerator.

These seeds can be germinated in rolled paper tissues and supported vertically in a beaker or gas cylinder to keep the seedlings straight for candidates to measure length.

- (ii) ruler [mm]
- (iii) 2 test tubes, labelled **S1** and **S3**
- (iv) access to water - beaker or wash bottle
- (v) white tile
- (vi) a flat instrument to crush plant seedling or soaked seeds
- [C] (vii) biuret solution(s) – label reagent ‘for protein test’ [not biuret A and B ] to be provided in usual bottles for dispensing
- (viii) **two** pre-soaked seeds of a non-leguminous species such as sweet corn, cabbage, radish, sunflower or pumpkin to be supplied in a separate container (not a test-tube), labelled **S3**. Seeds should be pre-soaked in water for a few hours
- (ix) paper tissue
- (x) forceps

**Question 2**

- (i) Preserved fly larvae/ maggots in a container to be labelled **S4** [ obtainable from fishing / aquaria / biological suppliers] 2 specimens per candidate.
- (ii) Preserved fly pupae in a container to be labelled **S5**, 2 specimens per candidate. [if maggots purchased several days in advance and sample halved, one half to be kept at a low temperature to delay development but the other half to be kept in a warm situation the maggots will develop into pupae **S5**.]

**These specimens, S4 and S5, to be supplied in separate, labelled, sealed transparent containers.**

- (iii) hand lens



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

**REPORT ON PRACTICAL BIOLOGY**

**IGCSE**

**May/June Session 2005**

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

**1** Was any difficulty experienced in providing necessary material? Give brief particulars.

Identity of **S3** seed.

.....

Result of biuret test on sample **S1** and **S3**.

**2** Did the candidates experience any difficulty during the course of the examination? If so, give brief particulars. Reference should be made to

- (a)** difficulties arising from faulty specimens;
- (b)** accidents to apparatus or materials;
- (c)** any information that is likely to assist the Examiner, especially if this cannot be discovered from the scripts.

• **Information that applies to all candidates need only be given once.**

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 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 inside **each envelope**.