

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

BIOLOGY

0610/05

Paper 5 Practical Test

October/November 2006

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.

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.

READ THESE INSTRUCTIONS FIRST

These instructions give details of the apparatus reagents and specimens required by each the 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.**

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.

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.**

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

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

Question 1

- (i) a length of stem, labelled as '**W1**', at least 5 cm long, of a plant such as *Impatiens* or balsam, that has been standing in water with a coloured dye for long enough for the dye to have travelled the length of the stem
Any **non-woody** dicotyledonous plant will be suitable
- (ii) knife or scalpel
- (iii) board or tile to cut on
- (iv) ruler
- (v) hand lens
- (vi) 2 cm³ distilled water in a test tube, labelled as **W3**.
Have further supplies of **W3** available in case of accidents
W3 will be referred to as a solution in the examination and should not be referred to as 'water'.
- (vii) 2 cm³ solution **W4** in a test tube, labelled as **W4**
Supervisors should make up a 1% glucose solution **W4** in the following way
For 1 dm³ solution **W4**
Add 10 g glucose to approximately 300 cm³ distilled water. Stir thoroughly and add sufficient distilled water to make up the solution to 1 dm³
Have further supplies of **W4** available in case of accidents
- [H] (viii) Benedict's reagent in a suitable container, labelled as 'Benedict's reagent', with means of dispensing
- (ix) a beaker, tripod, gauze and Bunsen burner for a water bath (a shared water bath is not appropriate)
- (x) a test tube rack or other means of support
- (xi) labels or marking pen to label test tubes
- (xii) sight of a clock.

Question 2

- (i) a dead fly with wings and legs intact, labelled as **W5**, provided in a small glass plastic dish
Centres might consider obtaining maggots and allowing them to develop into flies order to avoid potential health risks associated with the use of captured flies.
- (ii) hand lens
- (iii) a piece of mollusc shell, labelled as **W10**, provided in a small glass dish or on a tile
- [C] (iv) dilute hydrochloric acid in a suitable container, labelled as 'hydrochloric acid', with means of dispensing in drops (1 mol dm^{-3} would be a suitable concentration)
- (v) paper towelling
- (vi) forceps
- (vii) needle / seeker
- (viii) a white tile, which could be the white tile from question 1, cleaned and dried.

Safety

Teachers are expected to instruct candidates to take such precautions as are laid down or advised by their Education/Authority/School or College.

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

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

1 Please identify **W1**
Draw an outline diagram of W1 in the space below

2 Please give details of any significant differences shown in the reaction of the samples with dilute hydrochloric acid.

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

4 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 material;

(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.

- 7 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**.