



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

BIOLOGY

0610/53

Paper 5 Practical Test

October/November 2011

CONFIDENTIAL INSTRUCTIONS

1 hour 15 mins

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 email 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 **6** printed pages and **2** blank pages.



READ THESE INSTRUCTIONS FIRST

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. **Testing must be done out of sight of all candidates. No access to the question paper is permitted in advance of the examination.** Centres are reminded that candidates are expected to follow the instructions on the question paper and record all their results. They will not be penalised if these results are not what they expect.

The Supervisor should make sure the Supervisor's Report is fully completed and a copy is enclosed with each packet of scripts.

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

N = harmful to the environment

Centres are reminded that they are **not** permitted to open the question paper envelopes before the examination.

If there are any difficulties with any aspect of setting up this practical examination that the Centre is not able to resolve, it is essential for Centres to contact the Product Manager as soon as possible by e-mail to international@cie.org.uk, by fax to +44 1223 553558 or by phone to +44 1223 553554.

Question 1

Each candidate should be provided with:

- (i) 1 cm transverse slice of mature melon / squash / marrow / pumpkin (or other member of *Cucurbitaceae*). Centres are advised not to use Butternut squash as it is reported that some candidates may be allergic to a chemical in the tissue.

This fruit must have the external 'skin' intact and show the arrangement of seeds with at least five attached.

If only a few seeds are attached or they are too small, present at least five soaked seeds from a different fruit.

Present slice and seeds on a shallow tray or board labelled **Y1**.

- (ii) cutting implement to remove and cut seeds
- (iii) two dry test-tubes
- (iv) fat testing reagent in dispensing bottle, labelled and with a hazard sign as appropriate
- (v) iodine solution in a dispensing bottle in a shallow tray such as a Petri dish, labelled **iodine solution**, and with a hazard sign as appropriate
- (vi) supply of water, labelled **water**

Question 2

Each candidate should be provided with:

- (i) two pieces of potato cut to $60 \times 10 \times 10$ mm - the potatoes must be fresh, not cooked and the outside skin should be removed.

These potato 'chips' are to be submerged for at least two hours before the start of the examination in two solutions, each with one 'chip':

- concentrated salt solution (60g of sodium chloride - common salt - in 1 dm^3 water) - labelled **salt solution**,
- distilled water - labelled **distilled water**.

- (ii) ruler scaled in mm

- (iii) paper towels

- (iv) piece of black card (80×20 mm)

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

SUPERVISOR'S REPORT ON PRACTICAL BIOLOGY

IGCSE

October/November Session 2011

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

- 1** Identify or include a photograph / drawing of species of *Cucurbitaceae* supplied as **Y1**.

.....

- 2** Was any difficulty experienced in providing necessary material? If so, give brief details.

.....

.....

- 3** Give details of any difficulties experienced by particular candidates, giving names and candidate numbers. Reference should be made to:

- (a)** difficulties with specimens or materials;

.....

- (b)** accidents to apparatus or materials;

.....

- (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.



- 4 A plan of work benches, giving details of the candidate numbers for 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 to be despatched in more than one packet, it is essential that a copy of the relevant Supervisor’s report and the appropriate seating plan(s) are inside **each packet**.



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