



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

**BIOLOGY**

**0610/53**

Paper 5 Practical Test

**October/November 2014**

CONFIDENTIAL INSTRUCTIONS



**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 Confidential Instructions, please contact CIE

by e-mail [info@cie.org.uk](mailto:info@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 that 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 on 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

**N** = harmful to environment

**T** = toxic substance

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 [info@cie.org.uk](mailto:info@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) three small beakers, of the same shape and size

The size of the beakers must be such that when holding approximately  $100\text{cm}^3$  of liquid, the depth of the liquid will be at least 40 mm.

- (ii) at least  $100\text{cm}^3$  each of liquids **A**, **B** and **C** in three beakers, labelled **A**, **B** and **C**

The liquids should be prepared as follows:

- liquid **A**: 2 M sucrose solution

Dissolve 540 g of sucrose in  $650\text{cm}^3$  of distilled water. Warming the water gently will help the sucrose to dissolve more quickly.

Make the volume up to  $1000\text{cm}^3$  with distilled water.

- liquid **B**: distilled water

- liquid **C**: 0.8 M sucrose solution

Dissolve 216 g of sucrose in  $650\text{cm}^3$  of distilled water. Warming the water gently will help the sucrose to dissolve more quickly.

Make the volume up to  $1000\text{cm}^3$  with distilled water.

The liquids can be prepared in bulk up to three days in advance of the examination. Cover and store in a refrigerator.

The liquids should be at room temperature for the examination.

- (iii) half a white (Irish) potato, *Solanum tuberosum*, presented to candidates on a white tile, wrapped with plastic film

Potatoes need to have a diameter of at least 40 mm in all three directions.

- (iv) knife

- (v) ruler (with mm scale)

- (vi) view of a clock or timer

- (vii) means of labelling beakers

- (viii) access to paper towels (in case of spillages)

The Supervisor (**not** the Invigilator) should carry out the practical aspects of **Question 1** and record their results in the space provided in the Supervisor's Report. This must be done during the examination, using the same apparatus and reagents as the candidates but **out of sight** of the candidates.

**Question 2**

- (i) ruler (with mm scale)

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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 Series 2014**

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

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

.....  
 .....  
 .....

- 2** 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 the Handbook for Centres.

- 3** During the examination, the Supervisor should, **out of sight of the candidates**, carry out the practical aspects of **Question 1**, using the same apparatus and reagents as the candidates. Results should be recorded in the space on page 8 (**not** on a spare Question Paper). Attach extra sheets if necessary.

The Invigilator should **not** carry out **Question 1**.



- 4 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.

**Declaration** (to be signed by the Principal or the Examinations Officer)

The preparation of this practical 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 Supervisor's Report and the appropriate seating plan(s) are inside **each packet**.

