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

**BIOLOGY** **0610/05**

Paper 5 Practical Test **For Examination from 2016**

SPECIMEN 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 Instructions, please contact CIE
by email: 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.

The syllabus is accredited for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **6** printed pages.

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**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

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 email to info@cie.org.uk by fax to +44 1223 553558 or by phone to +44 1223 553554.

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**Question 1**

Each candidate should be provided with:

**(i)** one large test-tube, labelled **A**;

**(ii)** a glass delivery tube (preferably capillary tube), assembled as shown in Fig. 1.1, with one end attached to a rubber (gas-proof) bung to fit test-tube **A**;

**(iii)** one large test-tube containing water, labelled **B**;

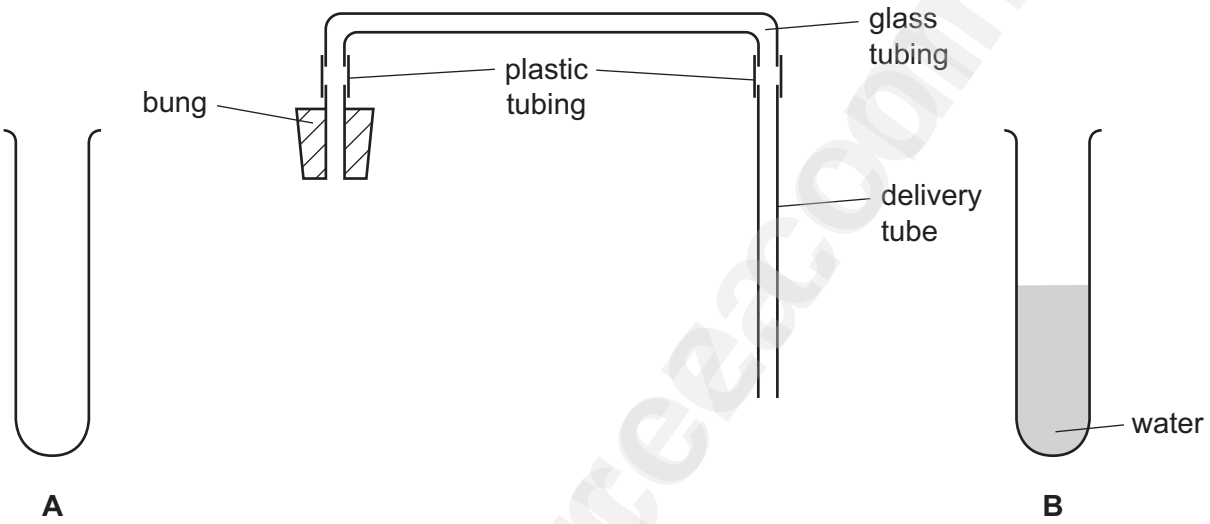


**Fig.1.1**

Fig. 1.1 shows the parts of the apparatus which the candidates will combine during the practical test.

**[H] (iv)** three test-tubes with bungs, suitably supported, each containing 5 $cm^3$ of 6% (20 vol) hydrogen peroxide solution (prepared the previous day and stored in a light-proof container prior to the examination), labelled **hydrogen peroxide** solution;

When preparing the bulk solution prior to dispensing into test-tubes, add a small drop of detergent to the mixture.

**(v)** eye protection;

**(vi)** plastic gloves;

**(vii)** 1 cm thick, transverse slice of sweet potato, with the outer skin intact and preferably of the yellow / orange variety (the cross-section of the slice should be at least 5 cm × 3 cm and it should be freshly prepared, no more than 1 hour before the examination);

**(viii)** means of cutting a 1 $cm^3$ cube, e.g. scalpel or small knife;

**(ix)** white tile or similar for cutting on;

**(x)** view of a clock or timer that allows the candidate to time minutes accurately;

**(xi)** paper tissues / towels;

**(xii)** empty container, labelled **waste washings**;

**(xiii)** supply of water for washing;

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**(xiv)** means to support tubes such as test-tube rack or empty beakers;

**(xv)** ruler with a mm scale.

**Question 2**

Each candidate should be provided with:

**(i)** large, simple (undivided) dicotyledonous leaf about 10 cm in length, labelled **W1**.

It is essential that:

- the leaf has a petiole;
- the leaf blade is not more than 10 cm in length and no more than 6 cm wide;
- the upper surface is different to the lower surface, e.g. shiny, waxy;
- the leaf is not covered in hairs.

Suitable examples include rhododendron, oleander, *Smilax*, ginger, etc.

**(ii)** hand lens;

**(iii)** a 30 cm ruler with a mm scale.

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**This form must be completed and returned with the scripts.**

**REPORT ON PRACTICAL BIOLOGY**

*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** Please identify **W1:**

Common name .....

Scientific name .....

**3** Please make a simple drawing of the lower surface of a typical leaf given to the candidates and mark on the drawing the actual width and length of the leaf.

**4** 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.

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**5** 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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