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**BIOLOGY**

**5090/32**

Paper 3 Practical Test

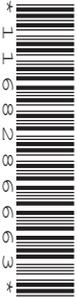
**October/November 2014**

CONFIDENTIAL INSTRUCTIONS

**1 hour 15 minutes**

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

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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.

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This document consists of **5** printed pages and **3** 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. **No access to the question paper is permitted in advance of the examination session.**

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.

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 in the left margin 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. There are **no** exceptions to this. Centres are also referred to the Handbook for Centres which covers Security of Question Papers and Examination Materials and Practical Examinations in Science Subjects.

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.

## SUPERVISOR'S INSTRUCTIONS – CONFIDENTIAL

## Question 1

Each candidate should be provided with:

- (i) Tall, narrow container between 100 cm<sup>3</sup> and 150 cm<sup>3</sup>, e.g. measuring cylinder, labelled **A**
- (ii) Shorter, wider container between 100 cm<sup>3</sup> and 150 cm<sup>3</sup>, e.g. beaker, labelled **B**

These two containers need to be of approximately equal volumes and both made from the same material, e.g. either both glass or both plastic or both tins. Insulated polystyrene cups, or similar, are **not** suitable.

- (iii) 1 × block of polystyrene or piece of thick card to support the thermometer through a hole in the centre

This needs to be large enough to rest on top of either container.

- (iv) 1 × thermometer
- (v) Supply of hot water [at least 65 °C when filling the containers]

There will need to be sufficient hot water to give 200 cm<sup>3</sup> to each candidate. The candidates will raise a hand during the examination to tell the supervisor that they are ready for the water. Approximately the same volume of water (100 cm<sup>3</sup>) should be put in each of the two containers for each candidate.

- (vi) Timer or view of a clock with a second hand
- (vii) Paper towels to deal with spillage.

## Question 2

Each candidate should be provided with:

- (i) A fresh, green, undamaged, simple, oval-shaped dicotyledonous leaf between 4 cm and 8 cm long and between 2 cm and 6 cm wide, with smooth or slightly serrated edges (not deeply lobed or deeply serrated), shiny or dull (not hairy) with a short leaf stalk (between 0.5 cm and 3 cm in length). A leaflet from a compound leaf is not suitable.

To be supplied wrapped in plastic to prevent drying out.

Suitable examples of leaves:

*Ligustrum* – Privet  
*Fagus* – Beech  
*Cornus* – Dogwood  
*Vinca* – Periwinkle  
*Malus* – Apple

- (ii) Ruler (mm)
- (iii) Hand lens [×6 at least].

Please record the identity of the leaf supplied and include a drawing or photograph in the Supervisor's Report.





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Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

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

### SUPERVISOR'S REPORT

#### General Certificate of Education Ordinary Level

#### October/November Session 2014

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

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

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- 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 Part 6 of the Handbook for Centres.

- 3 During the examination, the Supervisor should, **out of sight of the candidates**, carry out **Question 1** using the same apparatus and reagents as the candidates. Results should be recorded below (**not** on a spare Question paper). The Invigilator should **not** carry out **Question 1**.

.....	temperature/°C	
	A	.....
0		
2		
4		
.....		
.....		



- 4 Identify the leaf provided for **Question 2**. Please include a sketch or attach a photograph to show the dimensions and appearance of this leaf in the space below.

Range of length of leaf provided .....

- 5 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 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 dispatched 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**.

