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**BIOLOGY**

**5090/32**

Paper 3 Practical Test

**October/November 2015**

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 **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. **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) 5 similar containers, e.g. beakers or dishes, labelled **A**, **B**, **C**, **D** and **E** in which potato slices 60 mm × 10 mm × 3 mm will fit.
- (ii) 100 cm<sup>3</sup> of each of the following dilutions of sucrose solution, in the appropriate labelled containers:

container label	volume of stock sucrose solution/cm <sup>3</sup>	volume of distilled water/cm <sup>3</sup>
<b>A</b>	0	100
<b>B</b>	25	75
<b>C</b>	Container to be left empty	
<b>D</b>	75	25
<b>E</b>	100	0

The stock sucrose solution should contain 556 g/dm<sup>3</sup> of sucrose and be coloured with a few drops of red food colouring to represent fruit juice.

- (iii) 100 cm<sup>3</sup> of stock sucrose solution (556 g/dm<sup>3</sup> of sucrose) in a separate container labelled **concentrated fruit juice**.
- (iv) 100 cm<sup>3</sup> of distilled water in a beaker, labelled **water**.
- (v) 2 × measuring cylinders, each capable of measuring 50 cm<sup>3</sup> of fluid.
- (vi) Slice of (Irish) potato wrapped in plastic film.

This slice needs to be greater than 60 mm long and 10 mm thick.

- (vii) Sharp knife or scalpel.
- (viii) White tile on which to cut potato.
- (ix) Ruler (mm).
- (x) Forceps.
- (xi) Paper towels.
- (xii) View of a clock or timer.
- (xiii) 4 pieces of potato, each cut to 60 mm × 10 mm × 3 mm.

These pieces need to be cut approximately 30 minutes to 1 hour **before the start of the examination**. One piece should be submerged in each of the containers **A**, **B**, **D** and **E**. Cover each container with plastic film.

The Supervisor (**not** the Invigilator) is expected to 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 candidates.

**Question 2**

*Each candidate should be provided with:*

- (i) Ruler (mm).



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

### SUPERVISOR'S REPORT

Cambridge Ordinary Level

October/November Session 2015

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 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 in the space below (**not** on a spare Question Paper). The Invigilator should **not** carry out **Question 1**.

solution	percentage fruit juice in solution	final length of potato tissue/mm	change in length of potato tissue/mm
A	0		
B	25		
C	50		
D	75		
E	100		



- 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. The space below can be used for this, or it may be on separate paper.

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

The preparation of this 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**.

