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Cambridge Assessment International Education

Cambridge IGCSE™

BIOLOGY **0610/52**

Paper 5 Practical Test **February/March 2023**

CONFIDENTIAL INSTRUCTIONS



This document gives details of how to prepare for and administer the practical exam.

The information in this document and the identity of any materials supplied by Cambridge International are confidential and must NOT reach candidates either directly or indirectly.

The supervisor must complete the report at the end of this document and return it with the scripts.

INSTRUCTIONS

- If you have any queries regarding these confidential instructions, contact Cambridge International stating the centre number, the syllabus and component number and the nature of the query.
  email info@cambridgeinternational.org
  phone +44 1223 553554

This document has **8** pages. Any blank pages are indicated.

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General information about practical exams

Centres must follow the guidance on science practical exams given in the *Cambridge Handbook*.

Safety

Supervisors must follow national and local regulations relating to safety and first aid.

Only those procedures described in the question paper should be attempted.

Supervisors must inform candidates that materials and apparatus used in the exam should be treated with caution. Suitable eye protection should be used where necessary.

The following hazard codes are used in these confidential instructions, where relevant:

C	corrosive	**MH**	moderate hazard
HH	health hazard	**T**	acutely toxic
F	flammable	**O**	oxidising
N	hazardous to the aquatic environment		

Hazard data sheets relating to substances used in this exam should be available from your chemical supplier.

Before the exam

- The packets containing the question papers must **not** be opened before the exam.
- It is assumed that standard school laboratory facilities, as indicated in the *Guide to Planning Practical Science*, will be available.
- Spare materials and apparatus for the tasks set must be available for candidates, if required.

During the exam

- It must be made clear to candidates at the start of the exam that they may request spare materials and apparatus for the tasks set.
- Where specified, the supervisor **must** perform the experiments and record the results as instructed. This must be done **out of sight** of the candidates, using the same materials and apparatus as the candidates.
- Any assistance provided to candidates must be recorded in the supervisor's report.
- If any materials or apparatus need to be replaced, for example, in the event of breakage or loss, this must be recorded in the supervisor's report.

After the exam

- The supervisor must complete a report for each practical session held and each laboratory used.
- Each packet of scripts returned to Cambridge International must contain the following items:
  - the scripts of the candidates specified on the bar code label provided
  - the supervisor's results relevant to these candidates
  - the supervisor's reports relevant to these candidates
  - seating plans for each practical session, referring to each candidate by candidate number
  - the attendance register.

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Specific information for this practical exam

During the exam, the supervisor (**not** the invigilator) must do the experiment in Question 1 and record the results on a spare copy of the question paper, clearly labelled 'supervisor's results'.

Question 1

Each candidate should be provided with:

hazard	materials and apparatus	quantity per candidate
	cylinders of potato tissue in a beaker of tap water, labelled **P**	3
	knife or scalpel	1
	large test-tubes	3
	test-tube rack to hold three large test-tubes	1
	white tile	1
	permanent marker pen	1
	100 cm^3 beaker labelled **cold water** filled with 60 cm^3 of cold tap water at approximately 5 °C	1
	100 cm^3 beaker labelled **warm water** filled with 60 cm^3 of tap water at approximately 20 °C	1
	a supply of hot tap water at 60 °C Candidates will raise their hand when they require hot water.	approximately 60 cm^3
	empty 100 cm^3 beaker labelled **hot water**	1
	stop-clock	1
	thermometer, –10 °C to +110 °C, with 1 °C graduations	1
	paper towels	5
	suitable eye protection	1
	gloves	1 pair
	ruler, with a mm scale (also required for Question 2)	1
	forceps	1 pair
	white card approximately 10 cm × 10 cm	1

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Preparation of materials

Potato cylinders
You may use any variety of white potato, *Solanum tuberosum*. The potato should be as fresh as possible to avoid the effects of storage.

On the day **before** the exam, remove the outer skin and cut cylinders of potato with a diameter of approximately 1 cm using a cork borer. Cut each potato cylinder to a length of approximately 3 cm.

Put the prepared potato into a shallow tray so that the cylinders do not overlap and cover with freshly prepared 0.1% methylene blue solution. Ideally the potato cylinders need to soak for approximately 18 to 24 hours. During the soaking time the potato cylinders should be turned once or twice to enable a more even absorption of the methylene blue by the potato cylinders.

On the day of the exam, pour off the methylene blue solution. Rinse the cylinders four times with fresh cold tap water.

The potato cylinders should be presented to candidates in a beaker labelled **P**. Add enough fresh tap water to beaker **P** to cover the potato cylinders. The tap water in **P** may turn blue. This is expected.

0.1% methylene blue solution
Put 0.1 g of methylene blue **[HH, MH, N]** into 80 cm^3 of distilled water in a beaker and make up to 100 cm^3 with distilled water.

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Supervisor's report

Syllabus and component number | | | | | / | | |

Centre number | | | | | |

Centre name .....

Time of the practical session .....

Laboratory name/number .....

Give details of any difficulties experienced by the centre or by candidates (include the relevant candidate names and candidate numbers).

You must include:

- any difficulties experienced by the centre in the preparation of materials
- any difficulties experienced by candidates, e.g. due to faulty materials or apparatus
- any specific assistance given to candidates.

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Declaration

1 Each packet that I am returning to Cambridge International contains all of the following items:
- the scripts of the candidates specified on the bar code label provided
- the supervisor's results relevant to these candidates
- the supervisor's reports relevant to these candidates
- seating plans for each practical session, referring to each candidate by candidate number
- the attendance register.

2 Where the practical exam has taken place in more than one practical session, I have clearly labelled the supervisor's results, supervisor's reports and seating plans with the time and laboratory name/number for each practical session.

3 I have included details of difficulties relating to each practical session experienced by the centre or by candidates.

4 I have reported any other adverse circumstances affecting candidates, e.g. illness, bereavement or temporary injury, directly to Cambridge International on a *special consideration form*.

Signed ..... (supervisor)

Name (in block capitals) .....

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