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Cambridge Assessment International Education

Cambridge IGCSE™

BIOLOGY **0610/51**

Paper 5 Practical Test **October/November 2024**

CONFIDENTIAL INSTRUCTIONS

9249221851

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

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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
	empty 250 cm^3 beaker labelled **water-bath**	1
	distilled water in a beaker labelled **distilled water**	100 cm^3
	1 mol dm^{-3} sucrose solution in a beaker labelled **sucrose solution**	30 cm^3
	distilled water in a beaker labelled **water for washing**	200 cm^3
	50 cm^3 or 100 cm^3 measuring cylinder	1
	10 cm^3 syringe	1
	20 cm lengths of dialysis tubing bags, knotted at one end, in a small beaker of distilled water labelled **dialysis tubing bags**	2
	large test-tubes (approximately 150 mm × 25 mm)	2
	test-tube rack to hold large test-tubes	1
	a supply of hot water at approximately 50 °C Candidates will raise their hand when they are ready for hot water.	100 cm^3
	stop-clock	1
	container labelled **waste**, capable of holding 400 cm^3 of water	1
	30 cm ruler with a mm scale (also needed for Question 3)	1
	paper towels	5
	elastic bands to fit around a large-test tube	2
	permanent marker pen	1
	suitable eye protection	1
	gloves	1 pair

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Preparation of materials

dialysis tubing bags

Dialysis tubing comes in a variety of widths. The dialysis tubing should fit inside a large test-tube when filled with 6 cm^3 of liquid. Dialysis tubing with a flat width of between 20 mm to 25 mm will be suitable.

Cut 20 cm lengths of dialysis tubing. The dialysis tubing should be soaked for at least 10 minutes in water and then knotted at one end only, approximately 1 cm from one end to form a bag. The dialysis tubing bags may be prepared the day before the exam but must be kept submerged in distilled water. Knotted dialysis tubing should be presented to candidates submerged in water in a suitable container.

1 mol dm^{-3} sucrose solution

To prepare the sucrose solution, dissolve 34 g of sucrose in 70 cm^3 of distilled water. Make up to 100 cm^3 by adding more distilled water. This can be prepared a day before the exam and should be stored in a cool place. Table sugar is a suitable source of sucrose for this investigation. The solution should be given to candidates at room temperature or at least 20 °C.

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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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