



Cambridge IGCSE™

BIOLOGY

0610/53

Paper 5 Practical Test

October/November 2022

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.

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.

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
	yeast suspension, without foam, in a beaker labelled yeast suspension	40 cm ³
	0.1 mol dm ⁻³ glucose solution in a beaker labelled 0.1 mol per dm³ glucose solution	20 cm ³
	distilled water in a beaker labelled distilled water	20 cm ³
	tap water in a beaker labelled tap water	100 cm ³
	standard test-tubes	3
	bung and delivery tube that fits the standard test-tubes The delivery tube should be made of flexible tubing and should be approximately 30 cm long.	1
	test-tube rack to hold three standard test-tubes	1
	empty 250 cm ³ beaker labelled water-bath	1
	hot water at approximately 50 °C Candidates will raise their hand when they are ready for hot water.	200 cm ³
	10 cm ³ syringe	1
	5 cm ³ syringe	1
	1 cm ³ syringe	1
	glass rod	1
	thermometer, -10 °C to +110 °C at 1 °C graduations	1
	empty beaker or container labelled waste	1
	permanent marker pen	1
	stop-clock	1
	paper towels	5
	gloves	1 pair
	suitable eye protection	1

Question 2

Each candidate should be provided with:

hazard	materials and apparatus	quantity per candidate
	30 cm ruler with a mm scale	1

Preparation of materials*yeast suspension*

Add 10 g of fast-acting dried yeast to 100 cm³ distilled water. Mix well. The water used should be lukewarm and the yeast suspension should be prepared immediately prior to the exam. Remove any foam before giving it to candidates.

0.1 mol dm⁻³ glucose solution

Dissolve 1.8 g of glucose in 80 cm³ of distilled water and make up to 100 cm³ with more distilled water. This can be done the day before the exam and stored covered in a refrigerator. It must be at room temperature when it is given to candidates.

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Supervisor's report

Syllabus and component number

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Centre number

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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.

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)