



Cambridge IGCSE™

BIOLOGY

0610/53

Paper 5 Practical Test

May/June 2020

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. 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 experiments in Questions 1 and 2 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
	green agar block on a white tile	1
	transparent ruler with a mm scale	1
	forceps	1
	scalpel or sharp knife	1
	large test-tubes	4
	test-tube rack to support 4 large test-tubes	1
	1 mol dm ⁻³ hydrochloric acid in a beaker labelled HCl	30 cm ³
	distilled water in a beaker labelled water	30 cm ³
	permanent marker pen	1
	stop-clock	1
	1 cm ³ syringe	1
	5 cm ³ syringe	2
	hand lens	1
	gloves	1 pair
	suitable eye protection	1
	paper towels	4

Question 2

Each candidate should be provided with:

hazard	materials and apparatus	quantity per candidate
	one bean in a Petri dish	1
	iodine solution	20 cm ³
	spatula or small spoon	1
	gloves	1 pair
	suitable eye protection	1
	transparent ruler with a mm scale	1

Preparation of materials

Green agar block

Sprinkle 1.5g of agar onto 100 cm³ of distilled water. Mix the agar and distilled water while heating in a water-bath at approximately 95 °C in a suitable container. When the agar is completely dissolved add 1 cm³ of universal indicator to obtain a green or blue-green colour. If the agar is red or yellow a few drops of 1.0 mol dm⁻³ NaOH (sodium hydroxide) **[C]** can be added to the dissolved agar to obtain a green colour.

Pour the hot agar into a flat tray to a depth of just over 1 cm and allow to cool until set.

Cut the set agar into 30 mm × 30 mm × 10 mm blocks. Place each block on a white tile and cover it with a damp paper towel until required.

The agar may be prepared the day before the exam and stored in a refrigerator. The agar blocks should be presented to candidates at room temperature.

Bean

This can be any leguminous bean such as soya, cannellini or chickpea (or suitable local alternative). The beans can be fresh, canned or dried.

Dried beans should be soaked overnight in distilled water at room temperature.

Canned beans should be rinsed before presenting to candidates.

The bean should be supplied to candidates in a Petri dish.

Iodine solution

This can be commercially prepared and should be suitable for use in food tests. It should be given to candidates in a dropper bottle labelled **iodine solution**.

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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 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)