



BIOLOGY

0610/51

Paper 5 Practical Test

October/November 2019

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.

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.

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This document consists of **6** printed pages and **2** blank pages.

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
	Whatman's number 1 filter paper cut to size: 15 cm long and approximately 1 cm wide	1
	standard test-tube with a tightly fitting stopper	1
	test-tube rack	1
	scissors	1
	30 cm ruler with a mm scale (also required for Question 2)	1
	pencil (soft, HB, B, #2 or #1)	1
F, MH	acetone (propanone) in a closed container, labelled S1	30 cm ³
	small metal disc, at least 20 mm diameter This can be a low value round coin or a token. Plastic is not suitable.	1
	spinach leaves (in a Petri dish covered with a damp paper towel)	3
	transparent adhesive tape suitable for adhering paper to paper	15 cm
	paper towels	3
	stop-clock	1
	eye protection	1
	gloves	1 pair

Preparation of materials and solutions

Spinach leaves

These should be whole leaves that can be picked from a plant or bought from a market 1–2 days before the examination. The leaves should be stored in a cool place and supplied in a Petri dish covered with a damp paper towel.

If spinach (*Spinacea oleracea*) is not available any green dicotyledonous plant leaves can be used provided they have a thin cuticle and are easily crushed.

Solvent F, MH

Acetone (propanone) can be obtained from a commercial chemical supplier. It is not necessary to use analar quality.

Acetone is highly flammable and should be stored in a cool place (not a refrigerator) in a closed container.

It should be dispensed just before the examination in a container with a lid. Hazard labels should be on the container.

During the examination the room should be well-ventilated. There should **not** be any naked flames.

Filter paper strips

The filter paper must be able to fit into a standard test-tube without touching the sides of the test-tube. If the internal diameter of the test-tube is less than 15 mm wide reduce the width of the strip of filter paper provided to candidates so that it can be placed inside the test-tube without touching the sides of the test-tube. For example, reduce the width of the filter paper strip from 10 mm to 8 mm.

Before the examination the supervisor should test the leaves. A strip of Whatman's number 1 filter paper 1 cm × 15 cm should be cut and a pencil line drawn 3 cm from one end. A test leaf should be placed over the line and a metal disc rolled firmly over the leaf along the pencil line. The leaf should be soft enough to be crushed and should leave a green line on the filter paper. Move the leaf and roll the metal disc over the leaf along the pencil line. Roll the disc over different parts of the leaf along the pencil line a total of five times. A dark green line should be visible on the pencil line. If a green line is not visible change the source of leaves, e.g. fresher or younger leaves.

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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)