

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 their 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
MH, HH, C	1% amylase solution in a beaker labelled A	15 cm ³
	1% starch suspension in a beaker labelled S	15 cm ³
	iodine solution in a bottle labelled iodine solution with a dropper	15 cm ³
	distilled water in a beaker labelled distilled water	60 cm ³
	dialysis tubing bags in a small beaker of distilled water labelled dialysis tubing bags	2
	empty 250 cm ³ beaker labelled water-bath	1
	supply of hot water at 40–50°C Candidates will raise their hand when they are ready for hot water to be added to their water-bath.	100 cm ³
	distilled water in a beaker labelled water for washing	200 cm ³
	100 cm ³ beakers, one labelled E2 and the other labelled W2	2
	large test-tubes	2
	large test-tube rack	1
	Pasteur pipettes	4
	10 cm ³ syringe	1
	5 cm ³ syringes	3
	white tile, approximately 10 cm × 10 cm	1
	elastic bands to fit around a large test-tube	2
	paper towels	5
	suitable eye protection	1
	waterproof marker pen	1
	stop-watch	1
	plastic gloves	1 pair

Preparation of solutions

1% starch suspension

This should be prepared by adding 1 g of soluble starch to 80 cm³ of distilled water and bringing to boiling point to obtain a clear solution. Allow to cool. Make up to 100 cm³ with distilled water.

The starch suspension can be made the day before the exam and stored in a refrigerator. The starch suspension should be provided to candidates at room temperature.

1% amylase solution **MH, HH, C**

This is prepared by putting 1 g of bacterial amylase, **MH, HH, C**, into 80 cm³ of distilled water and mixing until dissolved. Make up to 100 cm³ with distilled water.

This should be prepared on the day of the exam.

iodine solution

Standard food-testing iodine solution is suitable.

dialysis tubing bags

Dialysis tubing comes in a variety of widths. Use dialysis tubing that will fit into a large test-tube when the tubing contains 6 cm³ of liquid. The dialysis tubing bags may be prepared the day before the exam but must be kept submerged in distilled water.

Prepare the dialysis tubing by soaking 20 cm lengths of dialysis tubing in distilled water for 10 minutes. Knot one end of the damp dialysis tubing tightly to form a bag. The distance of the knot from the open end of the dialysis tubing should be approximately 17 cm.

The dialysis tubing bags should be presented to candidates in a small beaker of distilled water labelled **dialysis tubing bags**.

Question 2

Each candidate should be provided with:

hazard	materials and apparatus	quantity per candidate
	30 cm transparent plastic ruler	1

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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)