



Cambridge IGCSE™

PHYSICS

0625/52

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 3 and record the results on a spare copy of the question paper, clearly labelled 'supervisor's results'.

Question 1

Items to be supplied by the centre (per set of apparatus, unless otherwise specified)

- (i) Thermometer, -10°C to 110°C , graduated in 1°C intervals.
- (ii) 250 cm^3 measuring cylinder, graduated in 1 cm^3 or 2 cm^3 intervals.
- (iii) 250 cm^3 beaker labelled **A**.
- (iv) 250 cm^3 beaker labelled **B**.
- (v) Clamp, boss and stand. See note 4.
- (vi) Supply of hot water. See notes 1 and 2.
- (vii) Supply of water at room temperature labelled **cold water**. See note 3.
- (viii) Stirring rod or teaspoon.
- (ix) Supply of paper towels to mop up any spills of water.

Notes

1. The hot water is to be supplied for each candidate by the supervisor. The water should be maintained at a temperature as hot as is reasonably and safely possible. Each candidate will require about 150 cm^3 of hot water.
2. Candidates should be warned of the dangers of burns or scalds when using very hot water.
3. Each candidate will require about 150 cm^3 of cold water.
4. The clamp, boss, stand and thermometer must be set up as shown in Fig. 1.1. The bulb of the thermometer must be below the 100 cm^3 level of a beaker. Candidates must be able quickly and easily to move the thermometer into and out of the beaker.

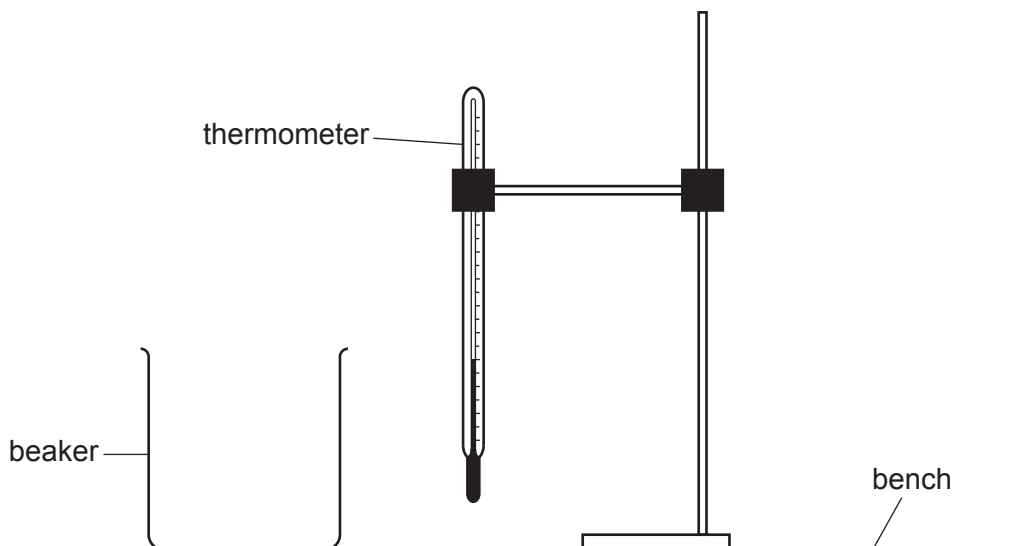


Fig. 1.1

Action at changeover

Empty the beaker and measuring cylinder.

Check the supply of hot water.

Check the supply of water at room temperature.

Question 2**Items to be supplied by the centre (per set of apparatus, unless otherwise specified)**

- (i) Plane mirror with a suitable holder. See note 1.
- (ii) Sheet of plain A4 paper with a hole in one corner (one per candidate). Some spare sheets must be available.
- (iii) 4 optics pins.
- (iv) Pin board (e.g. a cork mat), A4 size or larger.
- (v) Protractor (candidates may use their own).
- (vi) 30 cm ruler, graduated in mm (candidates may use their own).
- (vii) Treasury tag or string (to be used by the candidate to tie the ray-trace sheet into the question paper, one per candidate).

Notes

1. The mirror should be capable of standing vertically with one edge on the sheet of paper.

Action at changeover

Supply a sheet of plain paper, as in (ii) above.

Supply a treasury tag or string, as in (vii) above.

Question 3

Items to be supplied by the centre (per set of apparatus, unless otherwise specified)

- (i) Metre rule with a mm scale. See note 1.
- (ii) Triangular block to act as a pivot for the metre rule. This block is to stand on the bench.
- (iii) A 100g mass labelled **Q**. See note 2.
- (iv) A set of masses of 100g, 200g, 300g, 400g and 500g. The masses must be labelled **1.0N**, **2.0N**, **3.0N**, **4.0N** and **5.0N** respectively. See note 2.

Notes

1. If the metre rule has two scales in opposite directions, one scale must be taped over.
2. Any suitable masses that can rest on the metre rule can be used. A set of five 100g slotted masses (or four 100g slotted masses with a 100g mass hanger) could be used. In this case, each mass must be labelled **1.0N**.

Action at changeover

Remove the masses from the rule.

Remove the rule from the pivot.

Check that the apparatus is ready for the next candidate.

Question 4

No apparatus is required for this question.

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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)