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Cambridge Assessment International Education

Cambridge IGCSE™

PHYSICS **0625/53**

Paper 5 Practical Test **October/November 2025**

CONFIDENTIAL INSTRUCTIONS

0692659940

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

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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.

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Specific information for this practical exam

During the exam, the supervisor (NOT the invigilator) must do the experiments in Questions 1, 2 and 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) Piece of modelling clay of mass approximately 70 g, labelled 'Block A'.
A loop of strong thread or thin string must be incorporated so that the modelling clay can be suspended in order to be immersed in water in the measuring cylinder. See notes 1 and 2.

(ii) 250 cm^3 measuring cylinder. See note 2.

(iii) 30 cm or 50 cm ruler, graduated in mm. Candidates may use their own.

(iv) Supply of water. See note 3.

(v) Paper towels to soak up any water spillages.

(vi) Spare blocks of modelling clay, as in **(i)** must be available at changeover.

Notes

1. The modelling clay must be non-porous and able to keep its shape when immersed in water. Plasticine™ is suitable.
The exact dimensions are not important, but the length, width and height must have different values from each other. Approximately 7 cm × 3 cm × 2 cm would be suitable.
The block should be rectangular but the edges should not be completely straight as is indicated in Fig. 1.1.

2. The block suspended from the loop of thread must be able to be totally and freely immersed in water in the measuring cylinder and easily removed.

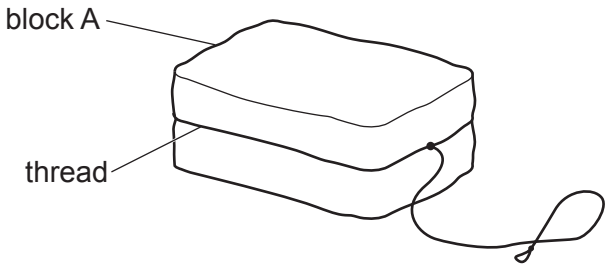

Fig. 1.1

3. Each candidate will require approximately 200 cm^3 of water. The temperature of the water is not important.

Action at changeover

Ensure that the measuring cylinder is empty.
Ensure that the modelling clay is reasonably dry.
Ensure that the block of modelling clay is shaped as specified in notes 1 and 2.

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Question 2

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

(i) 3 lengths of bare resistance wire about 105 cm in length, labelled **A**, **B** and **C**.
32 swg (0.274 mm diameter) constantan (Eureka) is suitable. Any other wire with a resistance of approximately 8 Ωm^{-1} can be used. See note 1.

(ii) Metre ruler graduated in mm. See note 1.

(iii) Power supply of approximately 2 V–3 V. See note 3.
Where candidates are provided with a variable power supply, the voltage should be set by the supervisor and fixed, e.g. taped.

(iv) Switch. The switch may be an integral part of the power supply.

(v) Resistor, approximately 3 Ω, 2 W, labelled R_P. See note 2.

(vi) Sufficient connecting leads to set up the circuit shown in Fig. 2.1.

(vii) 3 crocodile clips, labelled A, B and C respectively.

(viii) Ammeter capable of measuring currents up to 1.00 A with a precision of at least 0.05A . See note 4.

(ix) Voltmeter capable of measuring the power supply with a precision of at least 0.1V.
See note 4.

Notes

1. The wires should be as straight as possible.
The wires are to be fixed to the metre ruler in such a way that they are parallel but not touching.
Candidates must be able to connect crocodile clips to points between 90 cm and 100 cm from the left-hand end of each wire.
Alternatively, the wires may be fixed to an insulating strip and a separate metre ruler provided.
The left-hand ends of the resistance wires must be connected together (at the 0.0 cm mark if a metre ruler is used).

2. The circuit is to be set up for candidates as shown in Fig. 2.1.
Crocodile clip A must be connected to a bare section near the right-hand end of wire A. The precise position of this crocodile clip is not important.
Crocodile clips B and C must not be connected to the resistance wires.
The switch must be open.

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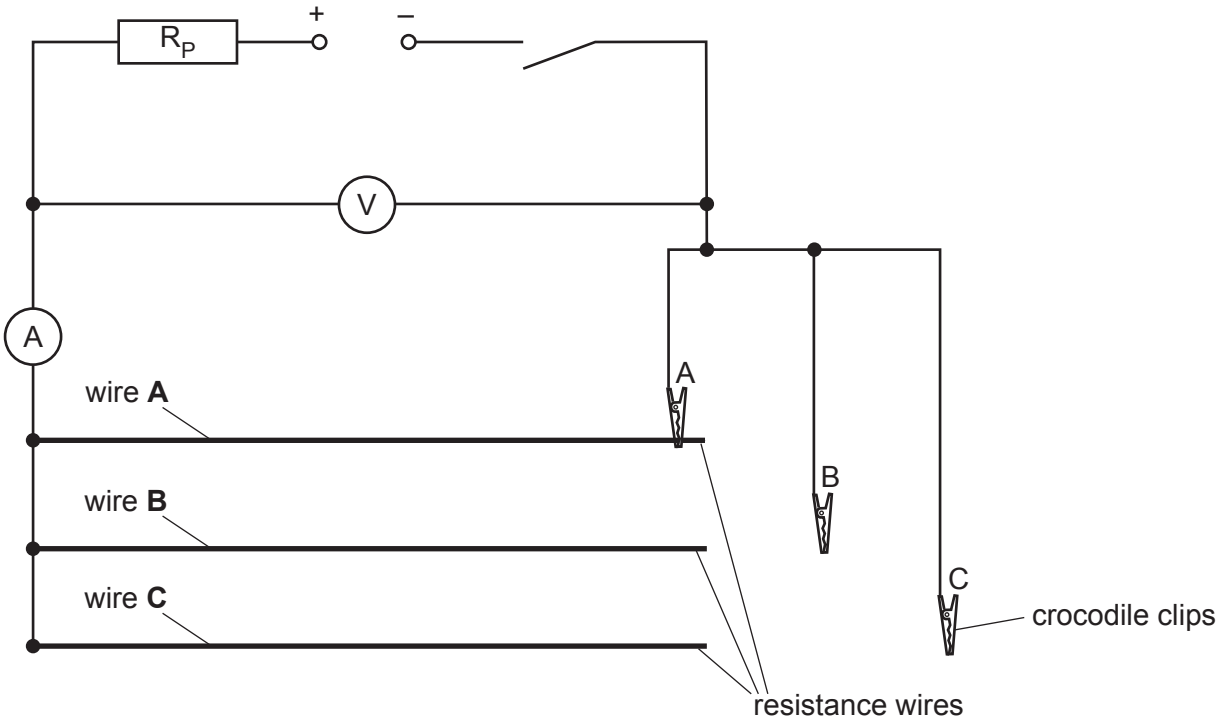

Fig. 2.1

3. If cells are used, they must remain adequately charged throughout the examination. Spare cells must be available.

4. Either analogue or digital meters are suitable. Any variable settings should be set by the supervisor and fixed, e.g. taped. Spare meters must be available.

Action at changeover

Ensure that the circuit is set up as described in note 2 and check that the circuit is working.
Open the switch.

Question 3

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

(i) Converging lens of focal length between 14 cm and 16 cm with a suitable holder.

(ii) Metre ruler, graduated in mm.

(iii) Illuminated object consisting of a rigid card with a triangular hole of height 2.0 cm (see Fig. 3.1). The hole is to be covered with thin translucent paper (e.g. tracing paper) secured with adhesive tape. See note 1.

(iv) Plain white screen. A white sheet of stiff card approximately 150 mm × 150 mm, fixed to a wooden support, is suitable (see Fig. 3.2).

(v) 30 cm ruler, graduated in mm. Candidates may use their own.

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Notes

1. The lamp used for the illuminated object should be low voltage, 24 W or greater, with a suitable power supply. An LED lamp of equivalent brightness can be used.

2. The centre of the triangular hole which forms the object and the centre of the lens in its holder must be the same height above the bench.

3. The apparatus should be situated away from direct sunlight.

4. Spare lamps must be available. New screens or screen covers must be available.

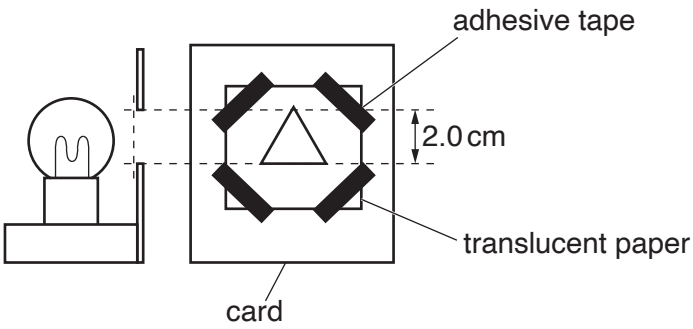

Fig. 3.1

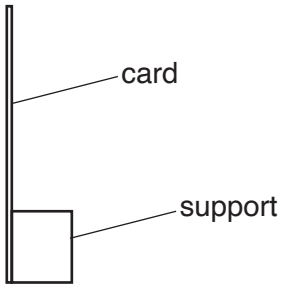

Fig. 3.2

Action at changeover

Check that the apparatus is intact and that the lamp is working. Replace the screen if it has been marked or damaged. Switch off the lamp.

Question 4

No apparatus is required for this question.

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Supervisor's report

Syllabus and component number | | | | | / | | |

Centre number | | | | | |

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.

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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) .....

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