



Cambridge IGCSE™

PHYSICS

0625/52

Paper 5 Practical Test

May/June 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.

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

Question 1

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

- (i) Metre rule, graduated in mm. 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 **P**. See notes 2 and 3.
- (iv) A 200g mass, labelled **Q**. See notes 2 and 3.

Notes

1. If the metre rule has two scales in opposite directions, one scale must be taped over.
2. Any suitable mass that can rest on the metre rule can be used.
3. The values of the masses or weights of **P** and **Q** must **not** be visible to the candidates.

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 2

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

- (i) Power supply of approximately 1.5–2.5V. Where candidates are provided with a power supply with a variable output voltage, the voltage must be set by the supervisor and fixed (e.g. taped). See note 2.
- (ii) Switch. The switch may be an integral part of the power supply.
- (iii) Three resistors of nominal value $4.7\ \Omega$ with a power rating of at least 2W. See note 3.
- (iv) Ammeter capable of reading up to 1.00A with a resolution of at least 0.05A. See note 4.
- (v) Voltmeter capable of measuring the supply p.d. with a resolution of at least 0.1V. See note 4.
- (vi) Sufficient connecting leads to set up the circuit shown in Fig. 2.1 plus two additional leads.

Notes

1. The circuit is to be set up for the candidates as shown in Fig. 2.1.

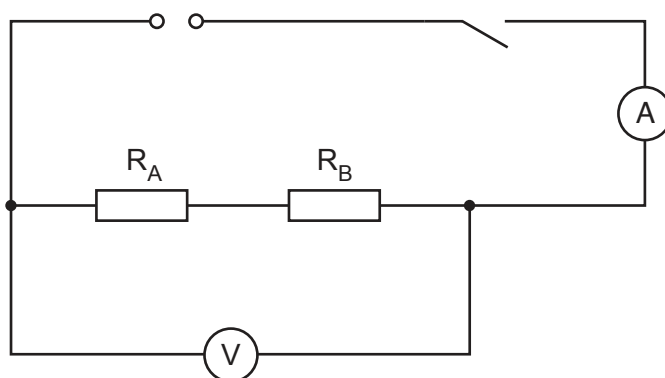


Fig. 2.1

2. If cells are to be used, they must remain adequately charged throughout the examination. Spare cells should be available.
3. The resistors must be labelled R_A , R_B and R_C . The values of resistance must **not** be visible to the candidates. The resistors must have suitable terminals so that candidates are able easily and quickly to rearrange the circuit.
4. Either analogue or digital meters are suitable. Any variable settings should be set by the supervisor and fixed (e.g. taped). Spare meters should be available.

Action at changeover

Rearrange the circuit so that it is set up as shown in Fig. 2.1.

Check that the circuit works. Switch off.

Question 3

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

- (i) Converging lens, focal length between 14 cm and 16 cm, with a suitable holder.
- (ii) Illuminated object with a triangular hole of height 1.5 cm (see Fig. 3.1 and Fig. 3.2). The hole is to be covered with thin, translucent paper (e.g. tracing paper). See notes 1 and 2.
- (iii) Metre rule, graduated in mm.
- (iv) Screen. A white sheet of stiff card, approximately 15 cm × 15 cm and fixed to a wooden support, is suitable. See Fig. 3.3.

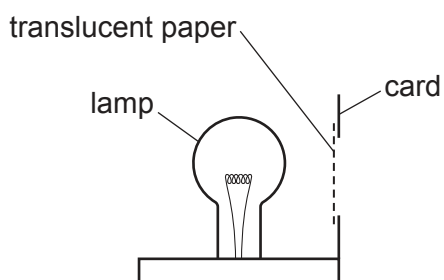


Fig. 3.1

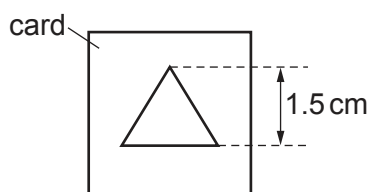


Fig. 3.2

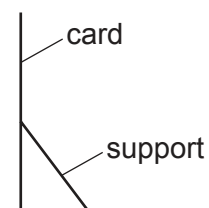


Fig. 3.3

Notes

1. The lamp for the illuminated object should be a low voltage lamp, approximately 24 W or higher, with a suitable power supply.
2. The centre of the hole which forms the object, the lamp filament and the centre of the lens in its holder are all to be at the same height above the bench.
3. The apparatus is to be situated away from direct sunlight.
4. Spare lamps must be available.

Action at changeover

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)