

**International General Certificate of Secondary Education
CAMBRIDGE INTERNATIONAL EXAMINATIONS**

PHYSICAL SCIENCE

PAPER 5 Practical Test

CONFIDENTIAL INSTRUCTIONS

0652/5

MAY/JUNE SESSION 2002

1 hour 30 minutes

Great care should be taken that this confidential information does not reach the candidates either directly or indirectly.

The Supervisor's attention is drawn to the form on page 5 which must be completed and returned with the scripts.

These instructions consists of 4 printed pages and 4 blank pages.

Instructions for preparing apparatus

These instructions detail the apparatus, reagents and specimens required by each candidate for each experiment in this paper. A summary of the questions that will be presented to the candidates is included, where appropriate, to allow the teacher to test the apparatus appropriately. **No access is permitted to the question paper in advance of the examination session.**

It is assumed that the ordinary apparatus of a science laboratory will be available, including a supply of purified water (distilled or deionised).

If arrangements are made for different sessions for different groups of candidates, care must be taken to ensure that the different groups of candidates are effectively isolated so that **no information passes between them.**

For Question 1

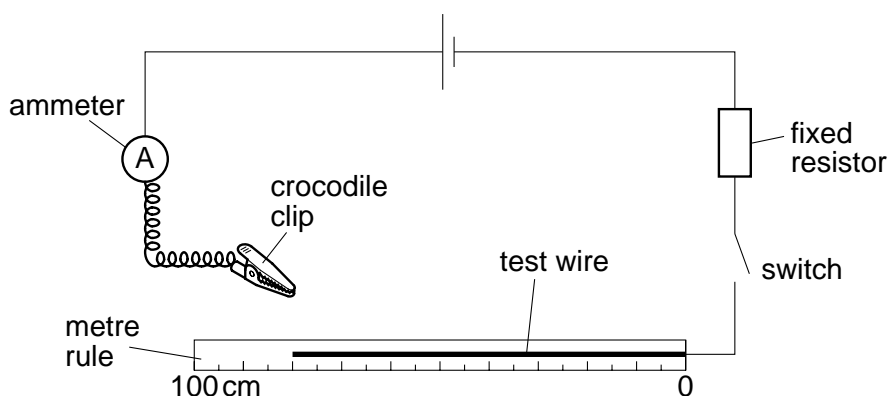
Each candidate will require:

- (i) six test-tubes 125 mm x 15 mm, one of which should be made of hard glass;
- (ii) a large test-tube 150 mm x 25 mm;
- (iii) some Universal Indicator solution;
- (iv) about 20 cm³ of dilute hydrochloric acid, concentration about 1 mol dm⁻³;
- (v) access to dilute nitric acid;
- (vi) a splint;
- (vii) litmus paper;
- (viii) limewater and means of testing for carbon dioxide;
- (ix) access to aqueous barium chloride or aqueous barium nitrate;
- (x) a Bunsen burner;
- (xi) about 3 g of potassium hydrogencarbonate, labelled 'P';
- (xii) access to solid ammonium chloride (a small amount);
- (xiii) a 0–110 °C thermometer.

For Question 2

Each candidate will require:

- (i) a 1.5 V cell in a holder (or with means to connect it into a circuit). The voltage of the cell is to be given to candidates;
- (ii) 4 connecting wires, two of which should terminate with crocodile clips at one end;
- (iii) a switch;
- (iv) 0.8 m length of wire which has a resistance of approximately 12 ohms per metre, attached to a metre rule with one end of the wire at the zero mark, (see diagram). All candidates should be provided with wire of the same type;
- (v) a fixed resistor between the cell and zero end of the test wire. This is to protect the ammeter when the length of test wire approaches zero. A 1 ohm resistor should be suitable. The value of this resistor must be recorded in the report;
- (vi) a 0–1 A ammeter. It is important to make sure that with 10 cm of wire in the circuit, the reading is on the scale. If there is difficulty in providing 0–1 A ammeters, it is permissible to alter the voltage of the cell provided, the resistance of the fixed resistor and/or of the wire to suit the available ammeters. Any such alterations must be recorded on the appropriate sheet.
- (vii) The apparatus should be set up for candidates as shown in the diagram below.



Information required from the Supervisor:

The Supervisor is asked to carry out the experiments and to enter the results on a spare copy of the examination paper, clearly marked 'Supervisor's Results' and showing the Centre number. This should be returned with the scripts. Failure to do so may cause the candidates to be penalised.

This form must be completed and returned in the envelope with the scripts together with the seating plan and the Supervisor's Results mentioned below.

May/June 2002

General

The Supervisor is invited to give details of any difficulties experienced by particular candidates giving their names and candidate numbers. These should include reference to:

- (a) difficulties due to faulty apparatus;
- (b) accidents to apparatus or materials;
- (c) physical handicaps, e.g. short sight, colour blindness;
- (d) any other information that is likely to assist the Examiner, especially if this cannot be discovered in the scripts;
- (e) any help given to a candidate.

The Supervisor is asked to supply the following information:

Plan of work benches, giving details by candidate numbers of the places occupied by the candidates for each session and a copy of the 'Supervisor's Results'.

NAME OF CENTRE

SIGNED

Supervisor

CENTRE NUMBER

DECLARATION (to be signed by the Principal)

The preparation of the practical examination has been carried out so as to maintain fully the security of the examination.

NAME

(in block capitals)

SIGNED(Principal)

