

CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**CHEMISTRY**

**0620/05**

Paper 5 Practical Test

May/June 2003

**CONFIDENTIAL INSTRUCTIONS**

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

The teacher responsible for preparing the examination is **not** allowed to consult the question paper before the examination. Teachers should, as a part of the preparation of the examination requirements, carry out any tests indicated on page 2 in order to satisfy themselves that the supplied materials are satisfactory.

The standard Report Form to be included with the scripts is given on pages 3 and 4. Please detach and enclose it with the scripts. If scripts are to be despatched in more than one envelope, it is essential that a copy of the Supervisor's Results and of the Report Form are sent inside **each** envelope.

More material may be issued if required, without penalty, but this should not be necessary. Safety spectacles may be provided if considered necessary.

**For Question 1**

Each candidate will need the following.

- (a) one measuring cylinder to measure 10 cm<sup>3</sup> and 20 cm<sup>3</sup>;
- (b) usual means of filling a burette;
- (c) one 50 cm<sup>3</sup> burette;
- (d) one or more 250 cm<sup>3</sup> conical flasks;
- (e) 60 cm<sup>3</sup> of 0.1 mol/dm<sup>3</sup> aqueous potassium iodide, labelled as such;
- (f) 75 cm<sup>3</sup> of 0.05 mol/dm<sup>3</sup> aqueous sodium thiosulphate, labelled 'solution A';
- (g) 25 cm<sup>3</sup> of aqueous potassium iodate(V) of concentration 3.0 g/dm<sup>3</sup>, labelled 'solution B';
- (h) 25 cm<sup>3</sup> of aqueous potassium iodate(V) of concentration 1.5 g/dm<sup>3</sup>, labelled 'solution C';
- (i) 40 cm<sup>3</sup> of 1.0 mol/dm<sup>3</sup> sulphuric acid, labelled 'dilute sulphuric acid';
- (j) 10 cm<sup>3</sup> of 0.2 % aqueous starch, labelled as such;
- (k) distilled water.

**Note:** 10 cm<sup>3</sup> of solution B, plus 10 cm<sup>3</sup> of dilute sulphuric acid and 20 cm<sup>3</sup> of potassium iodide should react with between 10 cm<sup>3</sup> and 25 cm<sup>3</sup> of solution A.

**For Question 2**

Each candidate will need the following:

- (a) a stoppered test-tube, labelled 'mixture of D and E', containing about 1 g of copper(II) carbonate and 1 g of hydrated zinc sulphate crystals, ZnSO<sub>4</sub>.7H<sub>2</sub>O, intimately mixed;

- (b) filtration apparatus, funnel, stand and filter paper;

Candidates will require access to the following for the qualitative analysis:

- (c) aqueous hydrochloric acid, of concentration 2 mol/dm<sup>3</sup>;
- (d) aqueous sodium hydroxide, of concentration 1 mol/dm<sup>3</sup>;
- (e) aqueous ammonia, of concentration 1 mol/dm<sup>3</sup>;
- (f) aqueous sulphuric acid, of concentration 1 mol/dm<sup>3</sup> (as used in Question 1);
- (g) aqueous barium chloride, labelled as such, of suitable concentration for a positive sulphate test;
- (h) limewater (plus any equipment usually used for testing for CO<sub>2</sub>);
- (i) distilled water;
- (j) rack of test-tubes;
- (k) two boiling tubes;
- (l) teat pipettes, spatulas;
- (m) Bunsen burner, splints and matches.

This form must be completed and returned in the envelope with the scripts.

REPORT ON PRACTICAL CHEMISTRY

JUNE 2003

1 (a) *Supervisor's Results*

It is recommended that the Supervisor should be a chemistry teacher.

The Supervisor is asked to carry out the experiments in Questions 1 and 2 and to record the results on a spare copy of the question paper clearly labelled 'Supervisor's Results'. Failure to enclose these results and this report form may lead to candidates being unavoidably penalised.

(b) The Candidate Numbers of candidates in each session were:

*First Session*

*Second Session*



2 The Supervisor is invited to report details of any difficulties experienced by candidates, including names and Candidate Numbers. The report should include reference to:

- (a) any general difficulties encountered in making preparations for the examination;
- (b) difficulties due to faulty apparatus or materials;
- (c) accidents to apparatus or materials.

Other cases of individual hardship, e.g. illness, temporary disability, should be reported direct to UCLES on the normal Application for Special Consideration form.

NAME OF CENTRE .....

CENTRE NUMBER .....

SIGNED .....

*Supervisor*

**DECLARATION (to be signed by the Principal)**

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

NAME .....

(in block capitals)

SIGNED .....(Principal)