



CHEMISTRY

0620/05

Paper 5 Practical Test

May/June 2007

CONFIDENTIAL INSTRUCTIONS

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

READ THESE INSTRUCTIONS FIRST

The teacher responsible for preparing the examination is **not** allowed to consult the question paper before the examination. Teachers should, as 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 7 and 8. 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.

Supervisors are advised to remind candidates that all substances in the examination should be treated with caution. Please also see under 'General Apparatus' on the use of pipette fillers and safety goggles.

In accordance with COSHH (Control of Substances Hazardous to Health) Regulations, operative in the UK, a hazard appraisal of the examination has been carried out.

Attention is drawn, in particular, to certain materials used in the examination. The following codes are used where relevant

C = corrosive substance

F = highly flammable substance

H = harmful or irritating substance

O = oxidising substance

T = toxic substance

Hazard data sheets should be available from your suppliers.

If you have any queries regarding these Instructions, please contact CIE

by e-mail: International@cie.org.uk,

by phone: +44 1223 553554,

by fax: +44 1223 553558,

stating the Centre number, the nature of the query and the syllabus number quoted above.

This document consists of **5** printed pages and **3** blank pages.



For Question 1

Each candidate will need the following.

- (a) one 50 cm³ measuring cylinder;
- (b) one 50 cm³ burette;
- (c) one or more 250 cm³ conical flasks;
- (d) 200 cm³ of 0.1 mol/dm³ sodium thiosulphate, Na₂S₂O₃·5H₂O (25 g per dm³ of solution), labelled sodium thiosulphate solution;
- [H] (e) 50 cm³ of aqueous potassium iodate, KIO₃, of concentration 8 g/dm³, labelled potassium iodate solution **A**;
- [H] (f) 50 cm³ of aqueous potassium iodate, KIO₃, of concentration 4 g/dm³, labelled potassium iodate solution **B**;
- (g) 3 samples in stoppered test-tubes of 1 g solid potassium iodide labelled as such;
- (h) 50 cm³ of 1.0 mol/dm³ sulphuric acid, labelled dilute sulphuric acid;
- (i) 10 cm³ of starch solution indicator (1 g / 100 cm³ water);
- (j) one 10 cm³ measuring cylinder, or a test-tube marked at the 1 cm³ level.

For Question 2

Each candidate will require

- [T] (a) about 3 g of a mixture of approximately equal masses of ammonium iron(II) sulphate-6-water, $(\text{NH}_4)_2\text{SO}_4 \cdot \text{FeSO}_4 \cdot 6\text{H}_2\text{O}$ and lead carbonate, PbCO_3 , labelled solid **C**. This should be mixed on the morning of the exam and then weighed out;
- (b) rack of test-tubes, one of which must be hard glass or *Pyrex*;
- (c) Bunsen burner;
- (d) pH indicator paper and chart;
- [C] (e) 1 mol/dm^3 nitric acid, labelled dilute nitric acid;
- (f) filtration apparatus (funnel, stand and filter paper);
- (g) 0.5 mol/dm^3 potassium iodide, labelled potassium iodide solution;
- [T] (h) barium nitrate solution of sufficient concentration to give a positive sulphate test;
- [H] (i) aqueous ammonia of concentration 1.0 mol/dm^3 ;
- [C] (j) aqueous sodium hydroxide of concentration 1.0 mol/dm^3 ;
- [C] (k) aqueous hydrochloric acid of concentration 1.0 mol/dm^3 ;
- (l) one boiling tube and stopper;
- (m) distilled water;
- (n) teat pipettes;
- (o) spatula;
- (p) measuring cylinder to measure 10 cm^3 . This could be the same as used in question 1.

Labels do not need to include concentrations.

THE SUPERVISOR'S REPORT IS ON PAGES 7 AND 8

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

REPORT ON PRACTICAL CHEMISTRY

MAY/JUNE 2007

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 as to maintain fully the security of the examination.

NAME
(in block capitals)

SIGNED (Principal)