



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

**CHEMISTRY**

**0620/51**

Paper 5 Practical Test

**May/June 2017**

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 pages 2 and 3 in order to satisfy themselves that the supplied materials are satisfactory.

The Supervisor's Report to be included with the scripts is given on pages 7 and 8. Please detach and enclose it with the scripts. If scripts are despatched in more than one envelope, it is essential that a copy of the Supervisor's Results and of the Supervisor's Report are sent inside **each** envelope.

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

Supervisors are advised to remind candidates that **all** substances in the examination should be treated with caution. Suitable eye protection should be provided.

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.

<b>C</b>	corrosive	<b>MH</b>	moderate hazard
<b>HH</b>	health hazard	<b>T</b>	acutely toxic
<b>F</b>	flammable	<b>O</b>	oxidising
<b>N</b>	hazardous to the aquatic environment		

Hazard data sheets should be available from your suppliers.

If you have any queries regarding these Confidential Instructions, please contact Cambridge stating the Centre number, the nature of the query and the syllabus number quoted above.

email        info@cie.org.uk  
phone        +44 1223 553554  
fax            +44 1223 553558

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **8** printed pages.

**Question 1**

Each candidate will require the following apparatus and chemicals. The labels of **solution C** and **solution D** must **not** include concentrations.

- (a) 2 × 25 cm<sup>3</sup> measuring cylinders
- (b) 1 × 10 cm<sup>3</sup> measuring cylinder
- (c) 1 × 50 cm<sup>3</sup> burette with stand and clamp
- (d) 1 × 250 cm<sup>3</sup> conical flask
- (e) 100 cm<sup>3</sup> of an aqueous solution of hydrated sodium thiosulfate, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>·5H<sub>2</sub>O, of concentration 0.1 mol/dm<sup>3</sup> containing 25 g per dm<sup>3</sup>, labelled **aqueous sodium thiosulfate**.  
[C] 3 cm<sup>3</sup> of 1 mol/dm<sup>3</sup> aqueous sodium hydroxide should be added to the above solution to ensure that it is **not** acidic.
- (f) 50 cm<sup>3</sup> of an aqueous solution of potassium iodate, KIO<sub>3</sub>, containing 6 g per dm<sup>3</sup>, labelled **solution C**
- (g) 50 cm<sup>3</sup> of an aqueous solution of potassium iodate, KIO<sub>3</sub>, containing 3 g per dm<sup>3</sup>, labelled **solution D**
- [MH] (h) 50 cm<sup>3</sup> of sulfuric acid of concentration 1 mol/dm<sup>3</sup>, labelled **dilute sulfuric acid**
  - (i) access to water and distilled water
  - (j) two samples in stoppered test-tubes of 1 g solid potassium iodide, each labelled **1 g of potassium iodide**
  - (k) 10 cm<sup>3</sup> of starch solution
  - (l) white tile
  - (m) funnel for filling burette

**Question 2**

Each candidate will require the following apparatus and chemicals. Labels do **not** need to include concentrations.

- [HH] (a) 0.5 g of basic copper(II) carbonate,  $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$ , labelled **solid E**
  - (b) 0.5 g of potassium iodide, KI, labelled **solid F**
  - (c) distilled water
  - (d) apparatus for a flame test
  - (e) rack of six test-tubes including a hard glass test-tube
  - (f) stopper to fit test-tubes
  - (g) limewater and apparatus used to test for carbon dioxide
- [MH][N] (h) aqueous silver nitrate of sufficient concentration to give a positive halide test
- [MH] (i) dilute sulfuric acid of concentration  $1 \text{ mol/dm}^3$
  - [C] (j) dilute nitric acid of concentration  $1 \text{ mol/dm}^3$
  - [C] (k) aqueous sodium hydroxide of concentration  $1 \text{ mol/dm}^3$
- [MH][N] (l) aqueous ammonia of concentration  $1 \text{ mol/dm}^3$
- (m) spatulas
  - (n) splints
  - (o) teat pipettes
  - (p) pH indicator paper and chart

**The Supervisor's Report is on pages 7 and 8.**

**The Supervisor's Report is on pages 7 and 8.**

**The Supervisor's Report is on pages 7 and 8.**

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

### Supervisor's Report

**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 giving 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 directly to Cambridge on the Special Consideration Form.

**Declaration** (to be signed by the Supervisor)

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

Name of Centre .....

Centre number .....

Signed .....

Name (in block capitals) ..... (Supervisor)

---

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cie.org.uk](http://www.cie.org.uk) after the live examination series.

Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.