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.

- **C** corrosive
- **MH** moderate hazard
- **HH** health hazard
- **T** acutely toxic
- **F** flammable
- **O** oxidising
- **N** 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
Question 1

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

(a) $2 \times 25 \text{ cm}^3$ measuring cylinders

(b) $1 \times 10 \text{ cm}^3$ measuring cylinder

(c) $1 \times 50 \text{ cm}^3$ burette with stand and clamp

(d) $1 \times 250 \text{ cm}^3$ conical flask

(e) $100 \text{ cm}^3$ of an aqueous solution of hydrated sodium thiosulfate, $\text{Na}_2\text{S}_2\text{O}_3\cdot5\text{H}_2\text{O}$, of concentration $0.1 \text{ mol/dm}^3$ containing $25 \text{ g per dm}^3$, labelled aqueous sodium thiosulfate.

$3 \text{ cm}^3$ of $1 \text{ mol/dm}^3$ aqueous sodium hydroxide should be added to the above solution to ensure that it is not acidic.

(f) $50 \text{ cm}^3$ of an aqueous solution of potassium iodate, $\text{KIO}_3$, containing $6 \text{ g per dm}^3$, labelled solution C

(g) $50 \text{ cm}^3$ of an aqueous solution of potassium iodate, $\text{KIO}_3$, containing $3 \text{ g per dm}^3$, labelled solution D

(h) $50 \text{ cm}^3$ of sulfuric acid of concentration $1 \text{ mol/dm}^3$, labelled dilute sulfuric acid

(i) access to water and distilled water

(j) two samples in stoppered test-tubes of $1 \text{ g solid potassium iodide}$, each labelled $1 \text{ g of potassium iodide}$

(k) $10 \text{ cm}^3$ 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.

[H] (a) 0.5 g of basic copper(II) carbonate, $\text{CuCO}_3\cdot\text{Cu(OH)}_2$, labelled solid E

(b) 0.5 g of potassium iodide, $\text{KI}$, 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 mol/dm$^3$

[C] (j) dilute nitric acid of concentration 1 mol/dm$^3$

[C] (k) aqueous sodium hydroxide of concentration 1 mol/dm$^3$

[MH][N] (l) aqueous ammonia of concentration 1 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.
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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:

<table>
<thead>
<tr>
<th>First session</th>
<th>Second session</th>
</tr>
</thead>
</table>
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)