

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

## CHEMISTRY

Paper 5 Practical Test

0620/53 October/November 2012

#### 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 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.

<b>C</b> = corrosive substance	F = highly flammable substance
H = harmful or irritating substance	<b>O</b> = oxidising substance
$\mathbf{N}$ = harmful to the environment	T = toxic substance
Hazard data sheets should be available from your suppliers	

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If you have any queries regarding these Instructions, please contact CIEby 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 require

- (a) one 25 cm<sup>3</sup> or 50 cm<sup>3</sup> measuring cylinder
- (b) one stirring thermometer, 0–110 °C
- (c) one polystyrene cup and a 250 cm<sup>3</sup> beaker
- [C] (d) 100 cm<sup>3</sup> of aqueous sodium hydroxide of concentration 2.0 mol/dm<sup>3</sup> labelled sodium hydroxide solution for question 1
  - (e) 50 cm<sup>3</sup> of aqueous sulfuric acid of concentration 1.0 mol/dm<sup>3</sup> labelled acid G
- [H] (f)  $50 \text{ cm}^3$  of aqueous phosphoric(V) acid,  $H_3PO_4$ , of concentration  $1.0 \text{ mol/dm}^3$  labelled acid H
  - (g) access to water and distilled water
  - (h) one 50 cm<sup>3</sup> burette

2

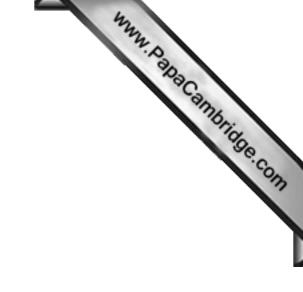
www.papacambridge.com

## For Question 2

Each candidate will require

- www.papacambridge.com (a)  $20 \text{ cm}^3$  of an aqueous solution of iron(II) sulfate, FeSO<sub>4</sub>.7H<sub>2</sub>O, made by dissolving 56 g iron(II) sulfate crystals in 100 cm<sup>3</sup> of 1 mol/dm<sup>3</sup> sulfuric acid and making up to 1 dm<sup>3</sup> with further sulfuric acid, labelled solution J
- (b)  $20 \text{ cm}^3$  of an aqueous solution of chromium(III) nitrate,  $Cr(NO_3)_3$ .9H<sub>2</sub>O, made by dissolving 40 g of chromium(III) nitrate crystals in 100 cm<sup>3</sup> of distilled water and making up to 1 dm<sup>3</sup>, labelled solution K
- (c) pH indicator papers and chart
- (d) rack of test-tubes
- (e) distilled water
- (f) aqueous barium nitrate of concentration suitable to give a positive sulfate test, labelled barium nitrate solution
- (g) aqueous hydrochloric acid of concentration 1 mol/dm<sup>3</sup>, labelled hydrochloric acid
- [C] (h) aqueous sodium hydroxide of concentration 1 mol/dm<sup>3</sup>, labelled sodium hydroxide
  - (i) aqueous ammonia of concentration 1 mol/dm<sup>3</sup>, labelled aqueous ammonia
- [N] [H] (j) aqueous silver nitrate of concentration suitable to give a positive halide test, labelled silver nitrate solution
- [C] (k) dilute nitric acid of concentration 1 mol/dm<sup>3</sup>, labelled nitric acid
  - (I) 10 volume hydrogen peroxide solution equivalent to 0.8 mol/dm<sup>3</sup> or a 3% solution, labelled hydrogen peroxide
  - (m) aluminium powder, labelled aluminium
  - (n) spatula
  - (o) one 10 cm<sup>3</sup> measuring cylinder
  - (p) a Bunsen burner, matches and test-tube holder
  - (q) teat pipettes
  - (r) splints

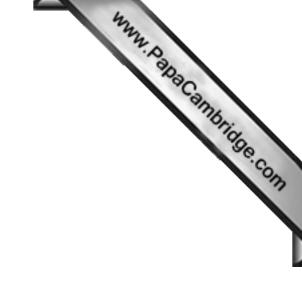
Labels do not need to include concentrations.



# THE SUPERVISOR'S REPORT IS ON PAGES 7 AND 8



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

# REPORT ON PRACTICAL CHEMISTRY

## NOVEMBER 2012

#### 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

	12
	8
2	8 The Supervisor is invited to report details of any difficulties experienced by candidates 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;
	(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 <i>Application for Special Consideration</i> form.
NA	ME OF CENTRE
CE	NTRE NUMBER
	SIGNED
DE	CLARATION (to be signed by the Principal)
	e preparation of this practical examination has been carried out so as to maintain fully the security the examination.
NA	ME(in block capitals)

SIGNED ...... (Principal)

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