UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2012 question paper

for the guidance of teachers

0620 CHEMISTRY

0620/63 Paper 6 (Alternative to Practical), maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2012 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

UNIVERSITY of CAMBRIDGE
International Examinations

1 **(a)** teat/dropping pipette/dropper (1) **allow**: pipette [1]

(b) crushed ore would have larger surface area (1)
more zinc oxide would have formed/faster decomposition (1) [2]

(c) sulfuric (1) [1]

(d) filtration (1) [1]

(e) add magnesium (1) **allow**: electrolysis [1]

[Total: 6]

2 bromine (water) (1) not: bromide
colourless (1)
aqueous silver nitrate (1)
yellow precipitate (1)
named indicator/solution of copper salt (1)
correct colour change/pH/blue precipitate (1) [6]

[Total: 6]

3 **(a)** volumes completed correctly
0, 30, 45, 52, 56, 54, 60, 60 –1 for each incorrect [3]

(b) points plotted correctly (3) –1 for each incorrect
smooth curve (1) [4]

(c) point at 100 seconds/54 cm^3/point 6 (1) off curve/owtte (1) [2]

(d) 20 cm^3 ±½ small square (1) indication on graph (1) [2]

(e) reaction finished/all peroxide decomposed owtte (1) [1]

(f) **(i)** in an ice bath (1) **allow**: in a refrigerator [1]

(ii) curve less steep (1) to same level (1) [2]

[Total: 15]

4 **(a)** pipette/burette (1) [1]

(b) **(i)** methyl orange/phenolphthalein/litmus (1) **not**: Universal Indicator

(ii) yellow/pink to orange or pink/colourless (1) [2]

(c) nitric acid (1) more volume added than sodium hydroxide (1) [2]

(d) repeat experiment (1) without indicator (1)
evaporate solution (1) [3]

[Total: 8]

5 **(c)** bubbles/fizz/effervescence (1) [1]
limewater (1) milky (1) [2]

(d) **(i)** blue (1) precipitate (1) [2]

(ii) blue precipitate (1) [1]
dark/deep blue (1) solution/dissolves (1) [2]

(e) barium/calcium (1) chloride (1) **not**: chlorine ions [2]

[Total: 10]

6 **(a)** Bunsen burner (1) **ignore**: switch [1]

(b) labels on correct positions (1) [1]

(c) **(i)** bulb lights/idea of molten lead (1)

(ii) bulb goes out/no fizz (1) [2]

(d) pressure of gas build up/explode owtte (1) [1]

(e) iodine formed (1) **not**: iodide from iodide ions (1) [2]

(f) fume cupboard/well ventilated area (1)
allow gloves if reason specified **ignore**: goggles [1]

[Total: 8]

7 known mass/weight (1) of each fertiliser (1)
add to same amount of soil (1)
+ bean (1) water (1)
leave for specified time (1) observe plant growth/effect (1)
comparison/conclusion (1) max 7 [7]

[Total: 7]