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

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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]

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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]

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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]

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