

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

**MARK SCHEME for the May/June 2010 question paper
for the guidance of teachers**

5070 CHEMISTRY

5070/41

Paper 4 (Alternative to Practical), maximum raw mark 60

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International Examinations

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- 1 (a) blue (1)
- (b) blue (1)
- (c) (i) (light) blue ppt. (1)
- (ii) ppt. dissolves (1) dark blue solution (1) [5]
- 2 (a) (i) B, reference to metal, positive ions, reduction occurs, –ve electrode etc. (1)
- (ii) copper (1)
- (b) (i) hydrogen (1)
- (ii) 'pops' in a flame (1)
- (c) (i) oxygen (1)
- (ii) relights a glowing splint (1)
- (d) (i) blue to colourless (1)
- (ii) copper is being removed from the solution etc./concentration decreased (1) [8]
- 3 (a) (i) 3.85 g (1)
- (b) (i) anhydrous/dehydrated (1)
- (ii) 2.30g (1)
- (iii) 1.55g (1)
- (c) (i) 152
- (ii) 18 (1)
- (d) (i) 0.0151 (1)
- (ii) 0.086 (1)
- (e) $x = 5.70$ (1) $\text{FeSO}_4 \cdot 6\text{H}_2\text{O}$ (1) [9]

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- 4 (c) [1]
- 5 (b) [1]
- 6 (c) [1]
- 7 steeper (1) horizontal line 2 × height (1) [2]
- 8 (a) pink to colourless (1)
- (b) 26.6 or 26.5 39.4 30.2
0.0 13.6 4.2
26.6 or 26.5 25.8 26.0
[Mark rows or columns to the benefit of the candidate. One mark for each correct row or column] (3)
Mean value 25.9 cm³ (1)
- (c) 0.0025 (1)
- (d) 0.0025 (1)
- (e) 0.0965 (1)
- (f) 88 (1)
- (g) (i) n = 3 (1)
(ii) C₃H₇COOH (1)
- (h) (i) C₃H₇COOC₂H₅ (1)
(ii) esters/alkanoates (1) [13]

Page 4	Mark Scheme: Teachers' version	Syllabus	Paper
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- 9 (a)** colourless solution (1)
- (b) (i)** aq. NaOH (1) white ppt. (1)
(ii) excess aq. NaOH, ppt. dissolves (1)
- (c) (i)** white ppt. (1)
(ii) ppt. dissolves (1)
- (d)** HNO₃/aq. AgNO₃ (2) white ppt. (1) [9]
- 10 (a)** 27, 31, 32 (1)
- (b)** all points plotted correctly (1)
Two intersecting straight lines (2)
- (c) (i)** 34° (1)
(ii) 22 cm³ (1)
- (d) (i)** 2NaOH + H₂SO₄ → Na₂SO₄ + 2H₂O (1)
(ii) calculation based on moles and mole ratio (1)
0.45 mol/dm³ (1)
- (e)** sulfuric acid in excess (1) cools the solution (1) [11]