

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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- 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 $2 \times$ 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 cm^3 (1)

(c) 0.0025 (1)

(d) 0.0025 (1)

(e) 0.0965 (1)

(f) 88 (1)

(g) (i) $n = 3$ (1)

(ii) $\text{C}_3\text{H}_7\text{COOH}$ (1)

(h) (i) $\text{C}_3\text{H}_7\text{COOC}_2\text{H}_5$ (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) $2\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O}$ (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]