UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2010 question paper

for the guidance of teachers

0620 CHEMISTRY

0620/52 Paper 52 (Practical), maximum raw mark 40

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1 Table of results

total volume of water boxes correctly completed (1)
temperature boxes completed (1)
values decreasing (1)
comparable to supervisor's results (2) ±10 at 10 cm^3 ±10 at 16 cm^3 [5]

(a) appropriate scale for y axis (1)
points plotted correctly(4), –1 for each incorrect
best fit straight line graph (1) [6]

(b) clear liquid formed/no solid visible owtte (1) e.g. no salt left [1]

(c) value from graph for 9 cm^3 of water (1) ±½ small square
extrapolation of straight line shown (1) [2]

(d) sketch graph below line (1)
label (1) [2]

(e) temperatures at which crystals appear lower (1)
solution more dilute in same volume of water/less saturated owtte (1) [2]
temperature halved as half as much solid = 2

(f) one improvement from e.g.
don't use a beaker of cold water to cool solution/
do not remove thermometer from the solution/
use second person/or IT method to note formation of crystals
repeat

linked explanation
different rate of heat losses/
loss of solid on thermometer/
observing formation of first crystals may vary
average [2]

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2 **(a)** Tests on solid W

yellow (1)
precipitate (1) not solid [2]

(b) Tests on solution X

(i) blue (1) [1]
pH of solution X approx 1–4 (1) [1]

(ii) blue (1)
precipitate (1) [2]

(iii) blue precipitate (1)
darker/deep/royal blue (1)
solution (1) or precipitate dissolves/goes clear [3]

(iv) brown (liquid/solution) (1)
cream/white (1)
solid/precipitate (1) [3]

(c) Tests on solution Y

(i) pH 1–3 (1) [1]

(ii) white (1)
precipitate (1) [2]

(d) iodide or I^-(1) not iodine [1]

(e) copper (1)
acidic (1) [2]

(f) sulfate only (1)
acid only (1)
sulfuric acid (2) max [2] [2]

[Total: 40]

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