

## MARK SCHEME for the May/June 2008 question paper

### 0620 CHEMISTRY

0620/06

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

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- 1 (a) boxes correctly completed
- measuring cylinder (1)
- spatula (1)
- tripod (1) [3]
- (b) more than enough to react owtte (1) [1]
- (c) diagram showing filter paper in a funnel (1) either labelled (1) [2]
- [Total: 6]**
- 2 (a) (i) electrodes labelled correctly (1) [1]
- (ii) carbon/graphite or platinum (1) [1]
- (b) bulb lights/brownish/red/orange gas/liquid/bubbles/silver beads formed/melts in tube [max 2]
- (c) any correct protective clothing e.g. gloves/lab coat (1)
- fume cupboard/well ventilated room (1) [2]
- [Total: 6]**
- 3 (a) boxes completed correctly to show position of hydrochloric acid (1) and sodium sulphite (1) [2]
- (b) arrow underneath flask (1) [1]
- (c) mistakes passed through water (1) collected by upward delivery (1) [2]
- [Total: 5]**
- 4 Table of results
- Experiment 1**  
initial and final volume boxes correctly completed (1), 0.0 and 26.0
- Experiment 2**  
initial and final volume boxes correctly completed (2), 16.0 and 29.0
- differences completed correctly (1), 26.0 and 13.0 [4]

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- (e) (i) Experiment 1 (1)
- (ii) more in Experiment 1/greater volume (1) ×2 (1)
- (iii) solution **A** more concentrated/stronger than **B** (1) X2 (1) [2]
- (f) twice the volume value for Experiment 2/26 (1) cm<sup>3</sup> (1) [2]
- (g) change e.g. repeat titrations (1) or use a burette/pipette  
 explanation e.g. average reading more accurate (1) instead of m/cylinder [2]
- (h) (i) iron(II) ions present (1) [1]
- (ii) iron(III) ions (1) [1]

**[Total: 15]**

**5 Tests on solid T**

- (b) (ii) white (1) precipitate (1) insoluble in excess (1) [2]
- (iii) no/slight (1) precipitate (1) max 4 for (ii) and (iii)  
 no reaction (1) only [2]
- (e) weak (1) acids (1) [2]
- (f) copper present(1) ethanoic acid/organic salt (1) [2]

**[Total: 8]**

**6 (a) Table of results**

- volumes correctly completed (4), -1 for each incorrect  
 0, 18, 34, 42, 59, 63, 63 [4]
- (a) points plotted correctly (3), -1 for each incorrect  
 smooth line curve (1) [4]
- (c) reaction finished/all acid used up (1) [1]
- (d) point at 3 minutes/at 42 cm<sup>3</sup> (1) does not fit curve owtte (1) [2]
- (e) sketch line below plotted curve (1) levels off around 30 cm<sup>3</sup> (1) [2]

**[Total: 13]**

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- 7 (a) test red litmus (1) or other named indicator  
result blue (1)
- (b) fractional (1)      distillation (1)      fractionation (1)      [2]
- (c) blue cobalt chloride paper (1)      turns pink (1)  
OR anhydrous/white copper sulphate (1) turns blue (1)      [2]
- (d) catches fire owtte (1)      [1]

[Total: 7]

[Total for paper: 60]