

**MARK SCHEME for the October/November 2010 question paper  
for the guidance of teachers**

**0620 CHEMISTRY**

**0620/53**

Paper 5 (Practical), maximum raw mark 40

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- 1 (a) Table of results for *Experiment 1*  
 volume of acid box completed correctly (1)  
 comparable to supervisors (1)
- (b) Table of results for *Experiment 2*  
 volume of acid box completed correctly (1)  
 comparable to supervisors (1) –1 if not 1 decimal place [4]
- (c) pink (1) to colourless (1) **not** clear [2]
- (d) (i) hydroxide [1]  
 (ii) neutralisation [1]
- (e) (i) experiment 2 [1]  
 (ii) experiment 2 2× volume experiment 1 [1]  
 (iii) alkaline solution **G** more concentrated/stronger (1) or converse  
 2× as concentrated (2) [2]
- (f) half value from table result for experiment 2 (1) cm<sup>3</sup> (1)  
 half volume of **G** used (1) max 2 [2]
- (g) (i) two sources of error  
 e.g. using a measuring cylinder to measure alkalis/going past end point owtte [2]  
 (ii) two meaningful improvements related to above  
 e.g. use a pipette/burette/repeat experiment or use different indicator [2]
- [Total: 18]**
- 2 (a) white/colourless crystals [1]
- (b) melts/turns into a liquid owtte (1)  
 crackles (1)  
 pH paper turns blue/ pH > 7 (1)  
 smell (1) max 2 [2]
- (c) (i) white (1) precipitate (1) [2]  
 (ii) no change/no reaction owtte [1]  
 (iii) pungent/smelly (gas) (1)  
 indicator paper turns blue or pH > 7 (1) [2]

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- (d) solid turns white/colour fades (1)  
condensation at top of tube (1)  
acidic gas (1) max 2 [2]
- (e) (i) green (1) precipitate (1) [2]  
(ii) white precipitate [1]  
(iii) (manganate) turns colourless/yellow/orange/brown [1]
- (f) steam (1)  
heat given off (1)  
solid turns green/brown/yellow/orange (1) max 2 [2]
- (g) ammonia [1]
- (h) ammonium (1) sulfate (1) [2]
- (i) iron (1) (II) (1) sulfate (1) [3]

**[Total: 22]**