CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0620 CHEMISTRY

0620/52 Paper 5 (Practical), maximum raw mark 40

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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1 (a) Table of results for Experiment 1
initial and final volumes and difference completed correctly (1)
to 1 decimal place (1)
comparable to supervisors (1) ±2 cm^3 [

(b) Table of results for Experiment 2
Initial and final volumes completed correctly (1)
and difference (1)
comparable to supervisors (1) ±2 cm^3 [3]

(c) (i) yellow, **not** orange to pink / orange (1) **not** red [1]

(ii) as an indicator / to show end point (1)
ignore to see colour change [1]

(iii) neutralisation (1) [1]

(d) (i) experiment 1 (1) [1]
allow: ecf from tables

(ii) quantitative comparison
experiment 1 4X volume experiment 2/x cm^3 more than (1) [1]

(iii) solution B more concentrated/stronger (1) or converse
explanation e.g. 4X as concentrated/less volume used (1) [2]

(e) half value / half value from table result for experiment 2 (1) cm^3 (1) [2]

(f) advantage
easy to use / quick / convenient (1)

disadvantage
not accurate (1) [2]

(g) same volume of each solution (1) add suitable named reactant (1)
expected observation (1) comparison (1)

e.g. 10 cm^3 of each acid (1) add strip of magnesium/named carbonate (1)
effervescence (1) more rapid bubbles means stronger acid (1) [4]

2 **(a)** **(i)** purple / black / violet (1) crystals (1)

(ii) drops / condensation at top of tube (1) colour change to green/grey (1)
green on cooling (1) max [ ]

(b) **(i)** green / grey (1) **not** white
precipitate (1) [2]

dissolves / clears (1) [1]

(ii) green / grey **not** white precipitate (1) insoluble (1) [2]

(c) blue / green (1) glowing splint (1) relights / glows brighter (1)
effervescence / bubbles (1) max [3]

(d) no reaction / no precipitate / no change / colourless solution (1) [1]

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

(f) hydrated/water (1)
allow transition metal [1]

(g) not halide / chloride / iodide (1) sulfate (1)
transition metal / iron / chromium / catalyst (1) [3]