

Experimental Techniques

Mark Scheme 3

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|-------------------|--------------------------|
| Level | IGCSE |
| Subject | Chemistry |
| Exam Board | CIE |
| Topic | Experimental Techniques |
| Sub-Topic | |
| Paper Type | Alternative to Practical |
| Booklet | Mark Scheme 3 |

Time Allowed: 45 minutes

Score: /37

Percentage: /100

- 1 (a) A = mortar (1)
 B = stirrer/stirring rod (1) not thermometer
 C = tripod (1)
 D = Bunsen Burner (1) [4]
- (b) filtration [1]
- (c) D or description [1]

- 2 (a) top box - sulphuric acid (1)
 bottom box - sodium chloride (1) 2
- (b) gas passed through water (1)
 gas is soluble in water (1) 2
- gas collected by upward delivery (1)
 gas is denser than air (1) 2
 marks independently
- (c) fume cupboard / goggles (1) 1
 or well-ventilated room / gloves

- 3 (a) (i) chromatography (1) [1]
- (ii) to prevent loss / evaporation of solvent (1) [1]
- (b) when the solvent is near the top of the paper / before the solvent reaches the top of the paper (1) [1]
- (c) (i) 4 (1) [1]
- (ii) yes, one artificial dye (1)
at same height / matches (1) [2]
- 4 (a) (i) (gas) syringe (1) [1]
- (ii) arrow indication under copper (1) [1]
- (b) spatula (1) [1]
- (c) black (1) [1]
- (d) to return to room/initial temperature (1)
correct volume of gas (1) [2]
- 5 (a) balance (1) stirring/(glass) rod/stirrer (1) not thermometer
beaker (1) [3]
- (b) (i) excess (1) not residue [1]
- (ii) filtration/decant (1)
not sieve/strain/centrifuge [1]
- (c) heat/evaporate (1) to crystallising point or description e.g. using glass rod (1) [2]

- 6 (a) Boxes filled in correctly to show
tongs(1)
watch glass/evaporating basin/dish(1)
beaker(1) [3]
- (b) oxidation/combustion/exothermic/redox(1) [1]
- (c) > 7(1) [1]