

MARK SCHEME for the May/June 2007 question paper

0654 CO-ORDINATED SCIENCES

0654/05

Paper 5 (Practical), maximum raw mark 45

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.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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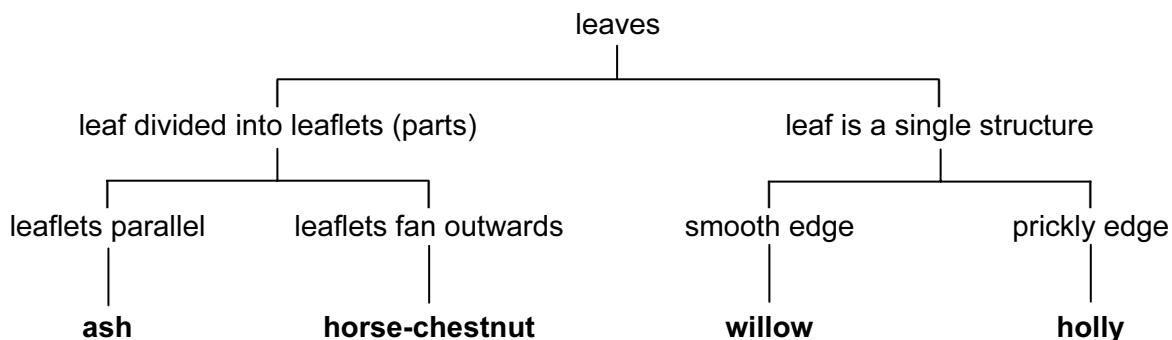


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- 1 (a) (i) good quality drawing of leaf showing detail of veins clearly; [1]
- (ii) clear label to any vein, including petiole, labelled **T**; [1]
- (iii) upper surface is a darker (green) than lower surface;
more chlorophyll/chloroplasts present; [2]
- (b) bubbles appear from lower surface of leaf; (this is essential)
air or other named gases present inside leaf;
comes through stomata; [3]
- (c) (i) clear drawings;
with four different shapes of leaves clearly visible and named; [2]
- (ii) any attempt at producing a key (1)
starting point is 'leaves' (1)
split into two parts e.g. edges different (1)
each of above separated again (one mark for each separation) (2)
correct identification (1) [6]

do not allow vague terms like longer/shorter, bigger/smaller

(an example of a correct answer is shown below)



[Total: 15]

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- 2** (a) sensible value for current
correct unit for current [2]
- (b) value for current less than in (a) [1]
- (c) (i) sensible value for voltage
consistency of readings i.e. same no. of sig figs [2]
- (ii) similar value to (c)(i) unless help given in setting up [1]
- (d) (i) use of V/I for both lamps
R correct for both lamps (must use 2nd value of I)
correct unit for resistance [3]
- (ii) comments on V and R for each lamp (1) within experimental error, therefore lamps are similar [2]
- (e) (i) lamps correctly placed
ammeter correctly placed [2]
if circuit does not work then no marks
- (ii) when in parallel the resistance is less (1)
so greater current therefore lamps brighter (1) [2]

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- 3** (a) Black powders allow grey or brown for one of these
X is more finely divided or comment to differentiate [2]
- (b) (i) small amount of bubbles (must be a difference to (ii)) [1]
- (ii) much bubbling
relights
oxygen (tied to relights) [3]
- (iii) solid Y [1]
- (c) paper is bleached NOT red
chlorine (tied to bleached) [2]
- (d) (i) blue or green [1]
- (ii) blue ppt. (1) insoluble in excess (1) [2]
- (e) copper oxide [1]
- (f) use of ammonia to produce dark blue solution [2]

[Total: 15]