Cambridge IGCSE – Mark Scheme PUBLISHED

| Question | Answer | Marks | Guidance |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------|
| 2(a)(i) | <i>line</i> : clear single continuous lines without shading ; size: occupies at least half the space available ; detail: layers in correct proportions ; | 3 | |
| 2(a)(ii) | length of line AB = 40 mm ; actual length =0.4 mm ;; | 3 | A ±1mm A ±0.01mm |
| 2(a)(iii) | X written on the spongy mesophyll of drawing ; | 1 | |
| 2(b)(i) | to obtain a representative leaf size ; to identify anomalous results ; | 1 | |
| 2(b)(ii) | to avoid bias / gain a representative sample / AW ; so that a comparison can be made (between the different light intensities) ; | 1 | A leaves at different heights may be different sizes |
| 2(b)(iii) | draw round the outline of the leaf on a grid / place leaf under a (transparent) grid ; count the squares ; include any squares more than half covered / other valid method described ; | 2 | |
| 2(b)(iv) | light intensity; | 1 | |
| 2(c)(i) | 67(%) ;; | 2 | |

Cambridge IGCSE – Mark Scheme PUBLISHED

| Question | Answer | Marks | Guidance |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|
| 2(c)(ii) | <pre>axes labelled with units: light intensity / arbitrary units or au and average leaf area / mm² and species A and B labelled / key given ; scale and size: even scale for leaf area sequential for x-axis bars / plotting area to occupy at least half the grid in both directions ; plots: 6 values plotted accurately ± ½ small square ;</pre> | 4 | |
| | <i>bars:</i> bars the same width (at least 1 small square wide) gaps present between bars / pairs of bars ; | | |
| 2(c)(iii) | <i>species A:</i> as the light intensity decreases the (average) leaf area increases / ; ora <i>species B:</i> (average) leaf area increases with increasing light intensity (to maximum at 50 au) and then decreases ; ora | 2 | |
| 2(c)(iv) | measure leaf growth at a narrower range of light intensities around 50 (au); | 1 | |