

Question Number	Answer	Additional Guidance	Mark
6(a)(i)	as the distance from the root cap increases the <b>mitotic index</b> decreases / eq ;	ACCEPT converse	(1)

Question Number	Answer	Additional Guidance	Mark
6(a)(ii)	<ol style="list-style-type: none"> <li>1. (total number of cells =) <math>3 + 91 / 94</math> ;</li> <li>2. (mitotic index = ) <math>3.2 / 3.19</math> ;</li> <li>3. (distance from root cap =) <math>1 / 1.0 / 1.00(\text{mm})</math> ;</li> </ol>	<p>Correct answer with no working shown gains full marks</p> <p>ALLOW 1.0 to 1.02</p>	(3)

Question Number	Answer	Additional Guidance	Mark
*6(a)(iii)	<ol style="list-style-type: none"> <li>1. use the same species of plant ;</li> <li>2. cut 2 mm length of root tip ;</li> <li>3. place root tip in acid / eq ;</li> <li>4. credit named stain ;</li> <li>5. credit details of method ;</li> <li>6. idea of counting number of cells in mitosis <b>and</b> the total number of cells at different distances (from the root cap) ;</li> </ol> <p><b>OR</b></p> <p>calculate mitotic index at each distance ;</p>	<p><b>QWC focus on logical sequence</b></p> <ol style="list-style-type: none"> <li>1.ACCEPT use same plant / root</li> <li>2. ALLOW length up to 5mm</li> <li>3. ACCEPT warmed in acid</li> <li>4. e.g. (aceto)carmine, Feulgen's, Schiff's, toluidine (blue), orcein, methylene blue</li> <li>5. e.g. teasing root tissue apart, squashing the cells underneath a cover slip, warming to intensify stain</li> <li>6.ACCEPT counting number of cells in mitosis <b>and</b> in interphase at different distances from the root cap</li> <li>6. NOT different regions</li> </ol>	(5)