

Multiple Choice Answers

Q2: B

Multiple Choice Answers

Q3: A

Q4: C

2(a)(i)	1 appropriate size <u>and</u> no shading ; 2 draws correct section of the stem ; 3 draws at least three vascular bundles and the correct proportion of vascular bundles to the cortex <u>and</u> no cells drawn ; 4 draws correct shape of outline <u>and</u> continuous vascular tissue ; 5 label line <u>and</u> label to xylem ;															
2(a)(ii)	1 appropriate size <u>and</u> lines are sharp and continuous ; 2 draws only four xylem vessel elements <u>and</u> each xylem vessel element touches at least one other xylem vessel element ; 3 two lines around each xylem vessel element <u>and</u> three lines where xylem vessel elements touch ; 4 draws correct shape of xylem vessel elements ; 5 label line <u>and</u> label to the wall of one xylem vessel element ;															
2(b)	1 draws a table <u>and</u> includes a heading for M1 <u>and</u> Fig. 2.2 ; 2, 3, 4 three observable differences ;;; <i>any three (correct differences) from:</i> <table><tr><th>Feature</th><th>M1</th><th>Fig. 2.2</th></tr><tr><td>Shape</td><td>circular</td><td>5 sides ;</td></tr><tr><td>vascular bundles</td><td>one ring</td><td>two rings ;</td></tr><tr><td>vascular tissue</td><td>continuous</td><td>separate ;</td></tr><tr><td>central tissue</td><td>cells</td><td>no cells ;</td></tr></table>	Feature	M1	Fig. 2.2	Shape	circular	5 sides ;	vascular bundles	one ring	two rings ;	vascular tissue	continuous	separate ;	central tissue	cells	no cells ;
Feature	M1	Fig. 2.2														
Shape	circular	5 sides ;														
vascular bundles	one ring	two rings ;														
vascular tissue	continuous	separate ;														
central tissue	cells	no cells ;														
2(c)(i)	1 correct number of eyepiece graticule units ; 2 shows division of eyepiece graticule units by one <u>and</u> multiplies by 1000 ; 3 answer to three significant figures ;															
2(c)(ii)	1 correct number of eyepiece graticule units ; 2 shows the answer from 2(c)(i) multiplied by the number of eyepiece graticule units ;															

2(a)	method for measuring a curved claw (on the image) ;					
2(b)(i)	any one from: colour of disc ; material of disc ; type of particle ;					
2(b)(ii)	(level of) roughness or (mean) particle diameter (on disc) ;					
2(b)(iii)	24 or 25 (feeding visits) ;					
2(b)(iv)	any two from: 1 as the particle diameter increases, (percentage of feeding visits when buff-tailed bumblebees) gripped (on to the disc) increases ; ora 2 at 30 μm and 53 μm / over 30 μm , there is no, difference / change / increase / AW (in percentage of feeding visits when buff-tailed bumblebees gripped on to the disc) ; 3 3. at 5 μm , (buff-tailed bumblebees) only hover ;					
2(c)(i)	Table 2.2 completed					
	mean particle diameter on the disc / μm	rank of mean particle diameter on the disc	percentage of feeding visits when the buff-tailed bumblebees gripped on to the disc	rank of percentage of feeding visits when the buff-tailed bumblebees gripped on to the disc	Difference in rank, D	D^2
	5	1	0	1	0	0
	9	2	4	2	0	0
	12	3	16	3	0	0
	16	4	79	4	0	0
	30	5	99	5.5	0.5	0.25
	53	6	99	5.5 ;	0.5	0.25
					$\Sigma D^2 = 0.5$;	
2(c)(ii)	$(r_s =) 0.99 / 0.986$;					
2(c)(iii)	0.99 / calculated value for r_s , is greater than 0.83 ;					