

Question number	Answer	Notes	Marks
1 (a)	leaf;		1
(b)	made from <u>tissue(s)</u> + perform a specific function / eq;		1
(c)	<p>The following named and labelled correctly:</p> <p>cell wall;                    5 to 6 correct = 3  cell membrane;  nucleus;                        3 to 4 correct = 2  chloroplast;  cytoplasm;  vacuole;                        1 to 2 correct = 1</p>	ignore mitochondria and ribosomes	3

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2(a)(i)	tissue(s) that carry out (same) function / <u>different</u> cell types that carry out (same) function / eq;		1
(ii)	heart;		1
(iii)	1. nervous / CNS; 2. breathing / respiratory / ventilation; 3. digestive; 4. excretory / urinary; 5. skeletal; 6. endocrine / hormonal;		3 max
(iv)	reproductive / immune / lymphatic;		1

(b)				5
	<b>Process</b>	<b>Name of organ</b>		
	ultrafiltration	kidney;		
	ventilation	lung;		
	secretion of insulin	pancreas;		
	secretion of hydrochloric acid	stomach;		
	bile production	liver;		

Total 11 marks

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3 (a)	<table border="1"> <thead> <tr> <th></th> <th colspan="3">Level</th> </tr> <tr> <th>Example</th> <th>organelle</th> <th>organ</th> <th>system</th> </tr> </thead> <tbody> <tr> <td>nucleus</td> <td>(✓)</td> <td></td> <td></td> </tr> <tr> <td>circulation</td> <td></td> <td></td> <td>✓;</td> </tr> <tr> <td>chloroplast</td> <td>✓;</td> <td></td> <td></td> </tr> <tr> <td>leaf</td> <td></td> <td>✓;</td> <td></td> </tr> <tr> <td>bulb</td> <td></td> <td>✓;</td> <td></td> </tr> </tbody> </table>		Level			Example	organelle	organ	system	nucleus	(✓)			circulation			✓;	chloroplast	✓;			leaf		✓;		bulb		✓;			4
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3 (b)	<table border="1"> <thead> <tr> <th>Order</th> <th>Structure</th> </tr> </thead> <tbody> <tr> <td>smallest</td> <td>red blood cell</td> </tr> <tr> <td style="text-align: center;">↓</td> <td>white blood cell</td> </tr> <tr> <td></td> <td>eye</td> </tr> <tr> <td></td> <td>kidney</td> </tr> <tr> <td>largest</td> <td>liver;;</td> </tr> </tbody> </table>	Order	Structure	smallest	red blood cell	↓	white blood cell		eye		kidney	largest	liver;;	<p>5 = 2 marks</p> <p>3 = 1 mark</p>	2
Order	Structure														
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(Total for Question = 6 marks)

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4 (a)	<table border="1"> <thead> <tr> <th>Illness</th> <th>Organ needed to cure illness</th> </tr> </thead> <tbody> <tr> <td>uremia</td> <td>(kidney)</td> </tr> <tr> <td>emphysema</td> <td>lung(s)</td> </tr> <tr> <td>coronary failure</td> <td>heart;</td> </tr> <tr> <td>diabetes</td> <td>s;</td> </tr> <tr> <td>hepatitis</td> <td>liver;</td> </tr> <tr> <td>poor vision</td> <td>cornea(s);</td> </tr> </tbody> </table>	Illness	Organ needed to cure illness	uremia	(kidney)	emphysema	lung(s)	coronary failure	heart;	diabetes	s;	hepatitis	liver;	poor vision	cornea(s);		5
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(b)	b le; emulsifies / large drops to small drops / eq; neutralise / optimum pH / alkaline;		2														
(c) (i)	genetically / gene / allele / DNA; identical / same / eq;	ignore similar	2														
(ii)	lots / no shortage / no delay / better supply / always available / eq;  no rejection / match / accepted by body / eq;  no problems with relatives / eq;	allow ref to blood type	2														

**TOTAL 11 MARKS**

Question number	Answer	Notes	Marks
5(a)(i)	1. <u>up</u> r epidermis; 2. tr <u>s</u> parent / lets light through / no chloroplasts;	waxy cuticle is transparent = 1	2
(ii)	1. p <u>i</u> sade; 2. d <u>e</u> sely packed / aligned vertically / eq; 3. i <u>n</u> a of <u>many</u> / <u>lots</u> of chloroplasts; 4. <u>s</u> orb / take in / trap light;	ignore lots of chlorophyll	3 max
(iii)	1. <u>l</u> ongy; 2. <u>a</u> spaces; 3. <u>d</u> ffusion / movement of gases / gas exchange / eq; 4. xylem <u>v</u> ascular bundle; 5. tr <u>s</u> port water;	Ignore phloem	3 max
(iv)	1. gua <u>r</u> d cell; 2. op <u>e</u> n / close; 3. let in carbon dioxide / water loss / transpire / evaporate / eq;	Ignore stomata Ignore gas exchange	2 max
(b)	1. lo <u>w</u> er surface in water / upper surface exposed to air; 2. allows carbo <u>d</u> ioxide in; 3. allows transpiration / evaporatio <u>n</u> / water loss / eq;	Ignore gas exchange Allow converse for Mps 2 and 3	2 max
(c)(i)	20;		1
(ii)	fewer/no stomata / holes / pores / guard cells;		1

Total 14 marks