

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</p> <p>cell membrane; 3 to 4 correct = 2</p> <p>nucleus;</p> <p>chloroplast;</p> <p>cytoplasm;</p> <p>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
	Process	Name of organ		
	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> <tr> <td></td><th colspan="3">Level</th></tr> <tr> <th>Example</th><th>organelle</th><th>organ</th><th>system</th></tr> <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> </table>		Level			Example	organelle	organ	system	nucleus	(✓)			circulation			✓;	chloroplast	✓;			leaf		✓;		bulb		✓;			4
	Level																														
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3 (b)	<table><tr><th>Order</th><th>Structure</th></tr><tr><td rowspan="5">smallest ↓ largest</td><td>red blood cell</td></tr><tr><td>white blood cell</td></tr><tr><td>eye</td></tr><tr><td>kidney</td></tr><tr><td>liver;;</td></tr></table>	Order	Structure	smallest ↓ largest	red blood cell	white blood cell	eye	kidney	liver;;	5 = 2 marks 3 = 1 mark	2
Order	Structure										
smallest ↓ largest	red blood cell										
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(Total for Question = 6 marks)

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4 (a)	<table><tr><th>Illness</th><th>Organ needed to cure illness</th></tr><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>pancreas;</td></tr><tr><td>hepatitis</td><td>liver;</td></tr><tr><td>poor vision</td><td>cornea(s);</td></tr></table>	Illness	Organ needed to cure illness	uremia	(kidney)	emphysema	lung(s)	coronary failure	heart;	diabetes	pancreas;	hepatitis	liver;	poor vision	cornea(s);		5
	Illness	Organ needed to cure illness															
	uremia	(kidney)															
	emphysema	lung(s)															
	coronary failure	heart;															
	diabetes	pancreas;															
	hepatitis	liver;															
	poor vision	cornea(s);															
(b)	bile; emulsifies / large drops to small drops / eq; neutralise / optimum pH / alkaline;																
(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>upper</u> epidermis; 2. transparent / lets light through / no chloroplasts;	waxy cuticle is transparent = 1	2
(ii)	1. palisade; 2. densely packed / aligned vertically / eq; 3. idea of <u>many</u> / <u>lots</u> of chloroplasts; 4. absorb / take in / trap light;	ignore lots of chlorophyll	3 max
(iii)	1. spongy; 2. <u>air</u> spaces; 3. diffusion / movement of gases / gas exchange / eq; 4. xylem / vascular bundle; 5. transport water;	Ignore phloem	3 max
(iv)	1. guard cell; 2. open / close; 3. let in carbon dioxide / water loss / transpire / evaporate / eq;	Ignore stomata Ignore gas exchange	2 max
(b)	1. lower surface in water / upper surface exposed to air; 2. allows carbon dioxide in; 3. allows transpiration / evaporation / 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