

Question number	Answer		Notes	Marks
1 (a)	<b>name of process</b>	<b>description of process</b>		5
	<u>ingestion</u> ;	food enters the mouth		
	digestion	break down <u>large</u> molecules / large molecules to small molecules / insoluble to soluble molecules;		
	<u>absorption</u> ;	small molecules move from small intestine into the blood		
	<u>assimilation / synthesis</u> ;	small food molecules are used to build large molecules		
	egestion	removal of undigested food / faeces / waste <u>from anus</u> ;		
(b)	1. mylase; 2. starch; 3. maltose / glucose; 4. physical digestion / mechanical digestion / chewing eq;		ignore carbohydrase	3
(c)	(yes) A is starch; B is glucose;		max 1 if A starch and B glucose but say no one is starch and one is glucose =1 mark	2

(Total for Question = 10 marks)

Question numbe	Answer	Notes	Marks
2 (a)	1. smosis; 2. dilute solution to concentrated solution / eq; 3. <u>root hair cells</u> ; 4. x lem; 5. <u>transpiration / evaporation / diffusion</u> of water from leaves;		4
(b)	(named) mineral / mineral ion / salt / eq;	ignore nutrients / nitrogen / phosphorus	1
(c) (i)	water/air-tight / dry leaves / cut under water / cut stem at an angle / eq;	ignore safety glasses / prevent falling over / parallax	1
(ii)	1. wind + how varied / eq;; eg fan at high and low speed 2. light + how varied / eq;; eg lamp close and far 3. humidity + how varied / eq;; eg clear plastic bag 4. temp + how varied / eq;; eg air conditioning / room thermostat	must state / describe method not just hot and cold room or light and dark max 2 for conditions	4

(Total for Question 12 = 10 marks)

Question number	Answer	Notes	Marks
3 (a)	cytoplasm; vacuole;		2
(b) (i)	1. shape; Then three from: 2. cell wall; 3. cell membrane; 4. nucleus; 5. vacuole; 6. cytoplasm;	labelled chloroplast max 3  line only labelled cell wall = 0  cell membrane as outside layer = 0	4
(ii)	1. large surface area; 2. permeable membrane; 3. osmosis / diffusion;	ignore thin / long  ignore active transport	2
(c) (i)	chlorophyll / chloroplast;		1
(ii)	1. amino acids / protein / enzymes; 2. growth; 3. DNA / bases; 4. chlorophyll / eq;	ignore fertiliser  ignore repair	2

(Total for Question 1 = 11 marks)

Question number	Answer	Notes	Marks
4 (a) (i)	A and G only;	both letters required in (i) and (iii)	1
(ii)	D only;		1
(iii)	B and F only;		1
(b)	1. long; 2. villi / villus / microvilli; 3. increase surface area / eq; 4. <u>diffusion</u> / <u>active transport</u> / <u>osmosis</u> ; 5. <u>capillaries</u> ; 6. (blood flow) maintains concentration gradient / maintains diffusion gradient; 7. thin walls / one cell thick / short distance; (applies to villi or capillaries) 8. <u>lacteal(s)</u> ;	marks can be given for valid marking points on a diagram	5

Question number	Answer	Notes	Marks
4 (c) (i)	1. lack vitamin C / antioxidant / scurvy / bleeding gums / eq;  2. constipation / less food movement / bowel cancer / raised cholesterol / increase heart disease / eq;	allow if vitamin C in list	2
(c) (ii)	1. obesity / increase in weight / eq;  2. lockage of <u>arteries</u> ;  3. high blood pressure / stroke / heart disease / raised cholesterol / eq;  4. diabetes;  5. joint damage / arthritis / eq;  6. gall stones;	ignore other blood vessels	3

(Total for Question = 13 marks)

Question number	Answer	Notes	Marks
5 (a) (i)	1. stop release of carbon dioxide; 2. respiration; 3. bacteria / fungi / microorganisms / decomposers / soil organisms / eq;	ignore evaporation of water	2
(ii)	control / to make a comparison / to show photosynthesis needs carbon dioxide / to show plants need carbon dioxide / difference due to carbon dioxide / eq;		1
(iii)	1. (sun)light; 2. water / moisture / humidity; 3. temperature; 4. soil / minerals / nutrients / ions / eq; 5. number of leaves / mass of plant / eq;		2

Question number	Answer	Notes	Marks
5 (b) (i)	1. <u>boil/heat/warm</u> in ethanol / alcohol; 2. test for starch;		2
(ii)	denature enzymes / eq;	reject kill enzymes	1
(iii)	high to low concentration / down concentration gradient / eq;	ignore along concentration gradient	1
(iv)	A = yellow / brown / orange;  B = blue / black / blue black / eq;	ignore green / white red  ignore purple	2

(Total for Question = 11 marks)