

Exchange Surfaces MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	increased / thick(er)	allow more / wide(r) / broad	1
a)ii)	decreased		1
b)	1	IGNORE working or lack of working correct figures from table 2.1 and 1.1 but no answer / wrong answer = 1 mark	2
Total marks			4

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	villus		1
a)ii)	its outer surface is one cell thick it has a large surface area it has good blood supply	cancel 1 mark for each extra box ticked	1 1 1
b)	diffusion		1
Total marks			5

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	capillary		1
a)ii)	diffusion		1
b)i)	Z	ignore any names	1
b)ii)	large / increased surface / area / or to absorb more food or improved diffusion	allow all food absorbed	1
Total marks			4

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	large surface / large area thin / short distance (from air to blood) / one cell thick / two cells thick good blood supply / many capillaries / capillary network / many blood vessels	ignore moist surface	1 1 1
b)i)	diffusion	ignore gaseous exchange	1
b)ii)	brings (more) oxygen / air into the lungs / alveoli keeps O2 level high in alveoli or maintains concentration difference (between alveoli and blood) / keeps O2 concentration in alveoli > O2 concentration in blood gains 2 marks		1 1
Total marks			6

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: ☑ large surface / area or many villi or have microvilli ☑ thin surface or thin wall or surface 1-cell thick or capillaries near surface or permeable or partially permeable ☑ many blood vessels or many capillaries or capillary network or good blood supply ☑ have enzymes	accept big surface / area accept they are thin do not allow thin cell wall ignore 'constant blood flow' owtte ignore extras eg moist or reference to gases ignore release enzymes accept reference to lacteal as 5th point allow reference to having mitochondria	2
b)i)	small(er) (surface area) / flat(ter) / short(er) or not as folded or fewer capillaries owtte	allow small(er) lacteal ignore references to wide / thick / spread out etc	1

b)ii)	less absorption (of digested food) / less digestion / diffusion	accept slower for less accept description of less digestion accept less food can get in do not allow zero absorption do not allow 'collection' of nutrients	1
Total marks			4

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	root hair		1
a)ii)	any two from: ☑water ☑ions / minerals / nutrients / salts / correct named eg nitrates ☑oxygen	ignore food ignore N,P,K	2
b)i)	stomata		1
b)ii)	diffusion		1
Total marks			5

QUESTION 7

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
	D – many microvilli (1) – provide large surface area (1) D – many capillaries / good blood (1) supply Ex – maintain concentration / diffusion gradient or quickly removes food (1) D – thin wall / one cell thick (1) surface / capillaries near surface Ex – short distance for food to travel (1) D – many mitochondria (1) Ex – provide energy / ATP for active uptake / transport (1)	five points made max 3 descriptions max 3 explanations	5
Total marks			5