

Controlling Body Temperature 2 MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	liver		1
a)ii)	kidney	allow urethra / bladder ignore ureter	1
a)iii)	(excess) protein / named / amino acids	accept amino / ammonia	1
b)	less / no sweating less heat lost / evaporation	allow ideas of how sweat glands change in order to reduce sweating	1 1
c)i)	become narrower / constrict	allow contract / get smaller etc allow less blood flows through vessels do not allow capillaries become narrower or reference to movement of vessels	1
c)ii)	reduced / no heat loss	allow heat gained from room	1
Total marks			7

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	thermoregulatory centre	allow thermoregulation centre allow hypothalamus	1
a)ii)	it has receptors reference to temperature of blood	ignore receptors in skin allow plasma for blood	1 1
b)	muscles contract increased respiration or more heat released	ignore relax / expand allow more heat produced if more not given allow respiration releases / produces heat	1 1
c)i)	(blood vessels / arteries / arterioles) dilate / widen	do not accept capillaries dilate ignore blood vessels get bigger / expand do not accept idea of blood vessels moving	1
c)ii)	more blood close to / near surface	allow blood is closer to the surface	1

	more heat lost or heat lost faster or cools faster	do not accept idea of blood vessels moving do not allow for idea of evaporation	1
Total marks			8

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	20% / 1 in 5 / 1 : 4 / 0.2 / 600 <hr/> 3000 600 : 2400 / 600 in 3000	any correct proportion ignore working do not allow 1 : 5 award 1 mark for selection of 3000 and 600	2
b)i)	sweat / sweating / perspiring	allow cooling / for cooling / to lose heat / to cool	1
b)ii)	the volume of water in the urine decreases. the volume of water taken as food or drink increases.		1 1
c)i)	liver	apply list principle	1
c)ii)	kidney	apply list principle	1
c)iii)	bladder	apply list principle	1
Total marks			8

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
	any three from: (cold conditions) <input checked="" type="checkbox"/> muscle (X) contracts when cold no / less blood through capillaries no / less heat lost / radiated no / less sweat produced (hot conditions) muscle (X) relaxes/does not contract when hot (more) blood through capillaries more heat lost / radiated more sweat produced	NB X contracts when cold and relaxes when hot = 2 marks all other points must be clearly identified by correct conditions max 2 if idea of capillaries moving but ignore capillaries dilate	3
Total marks			3