

Homeostasis

Internal environment is maintained by homeostasis

Controlling water and ions

- Water moves in and out of body cells
- taken in from food and drink
- lost from breathing out, sweat and urine (salt lost here too)
- Kidneys control this

Controlling temperature

- Core temperature 37°C, enzymes work best
- Sweat to cool down, shiver to warm up
- Below 35°C hypothermia risk
- too high leads to heat stroke / heat exhaustion enzymes and cells don't work properly

Controlling blood glucose

- Kept constant by hormones from pancreas

4 (a)	any two control variables for 1 mark each: • age / size of shoots • species or type of plant / seeds • light intensity • (other) named condition eg temperature / water	accept amount of light / colour of light	2
4 (b)	ref to auxin / hormone unequal (lateral) distribution more hormone on dark side causes growth on dark side	ignore reference to phototropism	1 1 1 1
4 (c)(i)	(detection) in tip / top / end		1
4 (c)(ii)	(response) behind tip	allow at tip / end / top half	1
Total			8

2(a)(i)	A – pituitary	allow hypothalamus	1
	B – ovary / ovaries		1
2(a)(ii)	in blood (stream)	accept in plasma ignore dissolved	1
2(b)(i)	FSH and Luteinising Hormone (LH)		1
2(b)(ii)	fertilised OR reference to sperm		1
	form embryos / ball of cells or cell division		1
	(embryo) inserted into mother's womb / uterus	allow (fertilised egg) is inserted into mother's womb / uterus	1
2(b)(iii)	any one from: - multiple births lead to low birth weight - multiple births cause possible harm to mother / fetus / embryo / baby / miscarriages	allow premature ignore reference to cost / ethics / population	1
2(c)(i)	any one from: - almost identical - both approximately 20%	allow S (slightly) more successful	1
2(c)(ii)	larger numbers (in clinic R) (in 2007)	allow <u>only</u> 98 (in S) (compared to 1004 (in R))	1
	results likely to be more repeatable (in 2008)	allow more reliable do not accept more reproducible / accurate / precise	1
Total			11