

Question	Answer	Marks	Guidance
1 a	pituitary (gland) (1) growth (hormone) (1) maintains the wall/lining of the uterus/womb (1)  stimulates an egg to develop (1)	4	<b>allow</b> (H)GH  <b>not</b> repairs/thickens/builds wall/lining <b>allow</b> prevents corpus luteum breaking down <b>allow</b> inhibits FSH / LH <b>allow</b> inhibits egg production  <b>allow</b> stimulates the growth of a follicle <b>allow</b> stimulates egg production <b>allow</b> stimulates oestrogen production <b>ignore</b> ovulation
b	<b>any two from:</b> too much/more urine is released (1) urine is <b>more</b> dilute (1) blood is too/more concentrated (1) increased thirst (1) less water <b>reabsorbed</b> (into blood) (1)	2	must be comparative  <b>allow</b> urinate more often  <b>allow</b> urine has a higher concentration of water  <b>allow</b> blood has a lower concentration of water  <b>allow</b> become dehydrated / need to drink more water  <b>ignore</b> references to permeability of tubules (as in question)
	<b>Total</b>	<b>6</b>	

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2	(a)	<p>Only seedlings 1 and 2 are showing positive geotropism <input type="checkbox"/></p> <p>Only seedling 1 is showing positive phototropism. <input checked="" type="checkbox"/> (1)</p> <p>All the seedlings are responding to gravity <input checked="" type="checkbox"/> (1)</p> <p>Only seedling 3 is showing negative phototropism <input type="checkbox"/></p> <p>None of the seedlings are responding to light <input type="checkbox"/></p> <p>All of the seedlings are showing negative phototropism <input type="checkbox"/></p>	2	more than two ticks: deduct one mark for each incorrect answer
	(b)	<p><b>any three from:</b></p> <p>(A - seedling 1 grows but seedling 2 does not:) because hormone is <b>made</b> in the tip (of seedling 1) (1) so no hormone (made) in seedling 2 (1)</p> <p>(B - seedling 1 bends but seedling 2 does not:) (more) hormone on dark side of seedling 1 / hormone moves to dark side (1) so hormone causes (more) <b>cell elongation</b> (on dark side) (1)</p> <p>(hormone is) auxin (1)</p>	3	<p><b>to get maximum 3 marks they must have two linked ideas, i.e. at least two marks from either A or B, plus one other mark:</b></p> <p>e.g. no hormone is made in 2 because hormone is made in the tip and the hormone causes cell elongation (3) <b>but</b> hormone made in the tip is auxin and it causes cell elongation (2)</p> <p><b>allow</b> hormone destroyed on light side</p> <p><b>ignore</b> just more growth on dark side</p>
<b>Total</b>			<b>5</b>	

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3 a	(auxin) made in tip <b>and</b>  because when tip is covered / missing then no growth towards the <b>light</b> / bending towards the <b>light</b> (1)	1	<b>allow ora</b> eg no tip exposed to light then no curvature must be sure response is <b>to light</b> <b>allow</b> there is no positive phototropism when tip is covered
b	no response with mica as mica prevents diffusion / response with gelatin as gelatin allows diffusion (1)	1	<b>allow</b> by diffusion as when diffusion is prevented it doesn't grow (towards the light)
c	idea of more auxin on shaded / right side <b>and</b> (more cell) elongation on shaded / right side (1)	1	<b>ora</b> <b>allow</b> auxin moves to shaded / right side because elongation greatest on shaded side <b>ignore</b> auxin destroyed by light  response must indicate an unequal distribution of auxin in response to light
	<b>Total</b>	<b>3</b>	

Question	Answer	Marks	Guidance
4 a	adrenaline (1)	1	
b i	0.08 (1)	1	
ii	contraction of ventricles is longer / 0.24 v 0.08 (1) need to pump blood further / to the body (1)	2	<b>allow</b> atria only need to pump the blood into the ventricles / do not need to pump as far (1) <b>ignore</b> to generate a higher pressure
	<b>Total</b>	<b>4</b>	