



# GCE

## Biology

Advanced GCE

Unit F214: Communication, Homeostasis & Energy

# Mark Scheme for January 2012

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## Annotations

Annotation	Meaning
	Correct answer
	Incorrect response
	Benefit of Doubt
	Not Benefit of Doubt
	Error Carried Forward
	Given mark
	Underline (for ambiguous/contradictory wording)
	Omission mark
	Ignore
	Correct response (for a QWC question)
	QWC* mark awarded

\*Quality of Written Communication

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Question			Answer	Marks	Guidance
1	(a)	(i)	<p>1 <i>idea of</i> maintaining (relatively) stable internal , environment / state ;</p> <p>2 within (narrow) limits / within (narrow) range / about a set point ;</p> <p>3 even though environment is changing ;</p>	2 max	<p>1 Need the idea of 'constant' or 'steady' <b>and</b> 'regulation' or 'keeping' <b>and</b> in the body</p> <p>2 <b>ACCEPT</b> about the 'norm'</p> <p><b>IGNORE</b> ref to negative feedback (as mechanism rather than definition) / optimum conditions</p> <p><b>CREDIT</b> mps 2 &amp; 3 (only) if response is in terms of example(s) e.g. temperature / blood glucose</p> <p><b>Note</b>            'maintaining a stable body temperature' = 0            'keeping your body temperature at 37°C' = 1 (mp 2)            'even though it is getting cold' = 1 (mp 3)</p>

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Question			Answer	Marks	Guidance
1	(a)	(ii)	<p>1 <math>\beta</math> cells / <math>\alpha</math> cells / <b>receptors</b> , detect , change / increased / decreased , in blood glucose (concentration) ;</p> <p>2 if high(er) glucose (concentration) , <b>beta</b> / <math>\beta</math> , cells (in pancreas) release <b>insulin</b> ;</p> <p>3 (increased) uptake / absorption , of glucose by , liver / muscle / <b>effector</b> , cells ;</p> <p>4 enters through glucose transport proteins (in cell surface membrane) ;</p> <p>5 glucose converted to <b>glycogen</b> / <b>glycogenesis</b> ;</p> <p>6 increased (use of glucose in) , respiration / ATP production ;</p> <p>7 if low(er) glucose (concentration) , <b>alpha</b> / <math>\alpha</math> , (in pancreas) cells release <b>glucagon</b> ;</p> <p>8 (increased) conversion of glycogen to glucose / <b>glycogenolysis</b> ;</p> <p>9 (increased) conversion of other compounds (amino acids / lipids) to glucose / <b>gluconeogenesis</b> ;</p> <p>10 glucose leaves cells , by <b>facilitated diffusion</b> / through glucose channels ;</p> <p>11 AVP ;</p>	5 max	<p>1 <b>CREDIT</b> correct ref to detection by <math>\alpha/a</math> (low) or <math>\beta/b</math> (high) <b>IGNORE</b> monitor / stimulate / figures quoted</p> <p>2 <b>ACCEPT</b> 'produce' rather than release <b>DO NOT CREDIT</b> B cells</p> <p>3 <b>CREDIT</b> increased permeability of named cell to glucose <b>IGNORE</b> 'use' / target cell</p> <p>4 <b>CREDIT</b> GLUT channels</p> <p>5 unambiguous spelling only of <u>glycogen</u> and <u>glycogenesis</u></p> <p>6 <b>DO NOT CREDIT</b> in context of <math>\alpha</math> and <math>\beta</math> cells <b>ACCEPT</b> 'increased respiration by body'</p> <p>7 unambiguous spelling only of <u>glucagon</u> <b>ACCEPT</b> 'produce' rather than release</p> <p>8 unambiguous spelling only of <u>glycogen</u> and <u>glycogenolysis</u></p> <p>9 unambiguous spelling only of <u>gluconeogenesis</u></p> <p>11 e.g. correct cellular detail for insulin release or in effector cells ...  <ul style="list-style-type: none"> <li>• insulin binds to receptor on plasma membrane of hepatocytes</li> <li>• correct ref to secondary messenger (cAMP)</li> </ul>           e.g. ref to inhibitory effect(s) of hormone ...  <ul style="list-style-type: none"> <li>• conversion in cells / secretion of antagonist</li> </ul> </p>
			<p><b>QWC</b> – technical terms used appropriately and spelt correctly ;</p>		1
<b>receptor,</b> <b>effector,</b> <b>alpha,</b> <b>gluconeogenesis,</b>	<b>beta,</b> <b>glycogen,</b> <b>glucagon,</b> <b>facilitated diffusion</b>	<b>insulin,</b> <b>glycogenesis,</b> <b>glycogenolysis,</b>			

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Question			Answer	Marks	Guidance
1	(b)	(i)	requires (daily) , insulin / hormone , injections ; is not affected by dietary changes ;	1 max	<b>ACCEPT</b> insulin is not being produced in sufficient quantities
1	(b)	(ii)	<i>idea that</i> has developed in , an old(er) person / middle age / a 55 year old ;	1	<b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b>  <b>DO NOT CREDIT</b> references to diet, as this was ineffective <b>but use NBOD icon to indicate this</b>
<b>Total</b>				<b>10</b>	

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Question			Answer	Marks	Guidance
2	(a)	(i)	liver ;	1	<b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b>
2	(a)	(ii)	<p>1 (high intake of protein) leads to a large amount of amino acids ;</p> <p>2 (excess) amino acids cannot be stored ;</p> <p>3 <u>amino acids</u> deaminated or <u>amine</u> group / <u>NH<sub>2</sub></u> , removed / converted to ammonia ;</p> <p>4 (large amount of) ammonia enters ornithine cycle (for conversion to urea) ;</p> <p>5 increased , <u>blood</u> / <u>plasma</u> , concentration of urea (leads to more urea in , filtrate / urine) ;</p> <p>6 high concentration of , amino acids / urea , in blood increases water absorption from urine ;</p>	3 max	<p>1 Must emphasise the idea of <i>leading to</i> , more / too many / lots of , amino acids</p> <p>3 <b>DO NOT CREDIT</b> deamination of protein <b>IGNORE</b> amino group</p> <p>4 <b>ACCEPT</b> ref to urea cycle instead of ornithine cycle correct diagram of the cycle</p>
2	(b)		diabetes (mellitus) ;	1	<p><b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b></p> <p><b>ACCEPT</b> kidney disease / nephritis / kidney failure / pregnancy <b>IGNORE</b> type 1 or 2</p>

Question			Answer	Marks	Guidance
2	(c)	(i)	(human) chorionic gonadotrop(h)in / hCG;	1	<p><b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b></p> <p><b>ACCEPT</b> phonetic spelling (a vowel between the ch and r)  <b>DO NOT CREDIT</b> chronic  <b>ACCEPT</b> combinations of lower and upper case letters  <b>DO NOT CREDIT</b> letters in the incorrect order (eg hGC)</p>



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Question			Answer	Marks	Guidance
2	(c)	(ii)	<p>1 LH binds to , anti-LH / its complementary (free / mobile / with dye) , antibodies ;</p> <p>2 this (LH-anti-LH) antibody complex moves along (test stick together with urine) ;</p> <p>3 this (LH-anti-LH) antibody complex binds (only) with , immobilised antibodies specific to them / lower band of immobilised antibodies ;</p> <p>4 (only) control antibodies bind with , immobilised antibodies specific to them / upper band of immobilised antibodies ;</p> <p>5 <i>idea that</i> binding of antibody (with dye to its immobilised anti-antibody) produces coloured line ;</p> <p>6 2 lines indicates , positive result / presence of LH <b>or</b> darker line = more LH <b>or</b> 'control' / top , line indicates the strip is working (correctly) <b>or</b> 'control' / top , line alone indicates no LH ;</p>	<p><b>3 max</b></p>	<p><b>ACCEPT</b> joins / attaches , for 'bind' throughout <b>IGNORE</b> 'reacts with' <b>DO NOT CREDIT</b> active site / enzyme references instead of antibodies <b>If a candidate's <u>whole</u> answer is in terms of pregnancy testing, DO NOT CREDIT mps 1, 2 &amp; 3</b></p> <p>1 <b>ACCEPT</b> hormone for LH 'specific' for 'complementary'</p> <p>2 <b>IGNORE</b> urine moving along the stick on its own</p> <p>5 <b>Award</b> in context of either LH or control line</p> <p>6 <b>DO NOT CREDIT</b> this alternative in context of positive pregnancy result</p>
			<b>Total</b>	<b>9</b>	

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Question			Answer	Marks	Guidance
3	(a)	(i)	<p><b>W</b> (chloroplast outer) membrane / envelope ;</p> <p><b>X</b> granum / grana ;</p> <p><b>Y</b> <u>stroma</u> ;</p> <p><b>Z</b> thylakoid(s) / (intergranal) lamella(e) ;</p>	4	<p><b>Mark the first answer on each prompt line.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b></p> <p><b>W DO NOT CREDIT</b> cell / plasma , membrane <b>DO NOT CREDIT</b> inner membrane alone but <b>IGNORE</b> if stated together with outer</p> <p><b>X ACCEPT</b> granal stack / thylakoid stack</p> <p><b>Y DO NOT CREDIT</b> stoma / matrix / cytoplasm</p>
3	(a)	(ii)	<p><b>1</b> (DNA) coding for , gene(s) / protein / enzyme <b>or</b> (ribosome) protein / enzyme , synthesis ;</p> <p><b>2</b> (enzymes for production of / proteins for) chlorophyll synthesis / pigment synthesis / photosystem ;</p> <p><b>3</b> (protein for) electron , acceptor(s) / carrier(s) ;</p> <p><b>4</b> ATP synth(et)ase ;</p> <p><b>5</b> (enzyme / PSII) for , photolysis / splitting of water ;</p> <p><b>6</b> (enzymes for) Calvin cycle / light independent reaction ;</p>	2 max	<p><b>DO NOT CREDIT any</b> mps in context of respiration</p> <p><b>1 IGNORE</b> 'information' / ref to replication <b>DO NOT CREDIT</b> making amino acids</p> <p><b>3 CREDIT</b> named acceptor / carrier (e.g. NADP / cytochrome)</p> <p><b>6 CREDIT</b> Rubisco</p>

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Question		Answer	Marks	Guidance														
3	(b)	<table border="1"> <thead> <tr> <th>statement</th> <th>letter</th> </tr> </thead> <tbody> <tr> <td>ATP is produced</td> <td><b>B</b></td> </tr> <tr> <td>an electron leaves photosystem I</td> <td><b>B</b> ;</td> </tr> <tr> <td>electrons are passed along an electron carrier chain</td> <td><b>B</b> ;</td> </tr> <tr> <td>electrons leave both photosystem I and photosystem II</td> <td><b>N</b> ;</td> </tr> <tr> <td>an electron from a water molecule replaces the electron lost from the photosystem</td> <td><b>N</b> ;</td> </tr> <tr> <td>the same electron returns to the photosystem</td> <td><b>C</b> ;</td> </tr> </tbody> </table>	statement	letter	ATP is produced	<b>B</b>	an electron leaves photosystem I	<b>B</b> ;	electrons are passed along an electron carrier chain	<b>B</b> ;	electrons leave both photosystem I and photosystem II	<b>N</b> ;	an electron from a water molecule replaces the electron lost from the photosystem	<b>N</b> ;	the same electron returns to the photosystem	<b>C</b> ;	5	<p><b>Mark the first answer in each box.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = 0 marks</p> <p><b>ACCEPT</b> lower case letters</p> <p><b>DO NOT CREDIT</b> 'N and C' <i>instead of</i> B, as they have been asked to use B</p> <p><b>IGNORE</b> 'N and C' if stated <i>in addition to</i> B in rows 1 and 2</p> <p><b>ACCEPT B</b> for this row</p>
statement	letter																	
ATP is produced	<b>B</b>																	
an electron leaves photosystem I	<b>B</b> ;																	
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electrons leave both photosystem I and photosystem II	<b>N</b> ;																	
an electron from a water molecule replaces the electron lost from the photosystem	<b>N</b> ;																	
the same electron returns to the photosystem	<b>C</b> ;																	
		<b>Total</b>	<b>11</b>															

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Question			Answer	Marks	Guidance
4	(a)	(i)	link reaction <b>and</b> Krebs cycle ;	1	<b>Mark the first 2 answers.</b> If they are correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b>
4	(a)	(ii)	oxidative phosphorylation ;	1	<b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b>  <b>ACCEPT</b> electron transport chain / electron transport system / electron carrier chain <b>IGNORE</b> chemiosmosis <b>DO NOT CREDIT</b> photorespiration
4	(b)	(i)	<p><b>1</b> to make the <u>volume</u> of , contents / 'peas' , the same (in the respirometers) ;</p> <p><b>2</b> <i>idea that because</i> the <u>volume</u> of peas in <b>A</b> is greater than the volume of peas in <b>B</b></p> <p><b>or</b> the peas in <b>A</b> , are bigger / take up more space <b>or</b> the peas in <b>A</b> have absorbed water <b>or</b> the peas in <b>B</b> , are smaller / take up less space ;</p> <p><b>3</b> as without the beads there would be more , air / gas / oxygen , in <b>B</b> than in <b>A</b> ;</p>	2 max	<p><b>1 IGNORE</b> ref to mass / weight</p> <p><b>2 IGNORE</b> ref to mass / weight must refer to A / soaked / germinating <b>and/or</b> B / dry / dormant</p> <p><b>3 CREDIT</b> idea that with the presence of beads the volume of gas would be the same</p>

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Question			Answer	Marks	Guidance
4	(b)	(ii)	<p>1 (determined by) finding difference in volume between (30) soaked , seeds / peas and (30) dry , seeds / peas ;</p> <p>2 the difference represents the volume of glass beads required</p> <p><b>or</b> add the quantity of glass beads necessary to make the volumes (of respirometer contents) equal ;</p> <p>3 calculate / knowing , volume of 1 bead to determine number of beads equivalent to volume required ;</p>	2 max	<p><b>ACCEPT</b> ref to mass/weight instead of volume throughout <b>(ii)</b> as an error carried forward (ecf)</p> <p>3 <b>CREDIT</b> any suitable <i>method</i> of determining the volume of beads required</p> <p>e.g. <ul style="list-style-type: none"> <li>• displacement</li> <li>• put soaked peas in tube and measure volume; mark; then put dry peas in and add glass beads into tube and top up to mark</li> </ul> </p>
4	(c)	(i)	0.014 ; ;	2	<p>Correct answer = 2 marks, even if no working</p> <p>If answer incorrect , not rounded correctly or given to more than 3 dp then <b>ALLOW</b> 1 mark for seeing</p> <ul style="list-style-type: none"> <li>• <math>\frac{0.27}{20}</math></li> </ul> <p><b>or</b></p> <ul style="list-style-type: none"> <li>• 0.0135</li> </ul> <p>Only if there is no answer on the dotted answer line, should you look for the answer in the working or in the appropriate place in the table.</p>

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Question			Answer	Marks	Guidance
4	(c)	(ii)	<p><i>at, higher temperature / 25°C</i> increased <u>kinetic</u> energy ;</p> <p>(named respiratory) enzymes / decarboxylases / dehydrogenases , involved ;</p>	2	<p><b>CREDIT</b> ora for lower temperature</p> <p><b>IGNORE</b> more collisions / ESCs</p> <p>Needs a clear statement that they are involved in <u>respiration</u></p> <p><b>IGNORE</b> (named) co-enzymes</p>
4	(c)	(iii)	<p><b>1</b> reactions require aqueous medium / reactions need to take place in water / reactions need to take place in solution ;</p> <p><b>2</b> enzymes and substrates can move (to collide) in soaked seeds</p> <p><b>or</b> movement (of reactants) , prevented / limited , in dry seeds ;</p> <p><b>3</b> soaked seeds need more , ATP / energy <b>or</b> dry seeds need less , ATP / energy ;</p> <p><b>4</b> for , protein synthesis / mitosis / other (named) metabolic reaction ;</p>	2 max	<p><b>ACCEPT</b> 'germinating' for 'soaked', 'peas' for 'seeds', 'dormant' for 'dry' throughout</p> <p><b>1 IGNORE</b> ref to reactants dissolving</p> <p><b>2 IGNORE</b> ref to ESC as the mp is for the idea of mobility</p> <p><b>3 DO NOT CREDIT</b> 'no' ATP / energy</p> <p><b>4 CREDIT</b> soaked peas have increased metabolism <b>IGNORE</b> growth / respiration <b>DO NOT CREDIT</b> ref to photosynthesis</p>
			<b>Total</b>	<b>12</b>	

Question		Answer	Marks	Guidance
5	(a)	<p><b>E</b> (proximal / first / distal / second) convoluted tubule / PCT / DCT ;</p> <p><b>F</b> (lumen of) Bowman's / renal , capsule ;</p>	2	<p><b>Mark the first answer on each prompt line.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b></p> <p><b>E ACCEPT</b> collecting duct  <b>DO NOT CREDIT</b> loop of Henle (as not in cortex)  <b>DO NOT CREDIT</b> 'cells of ...' / tube  <b>IGNORE</b> 'nephron tubule' / nephron</p>

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Question			Answer	Marks	Guidance
5	(b)	(i)	<p>1 <b>afferent</b> arteriole , has diameter greater than that of / is wider than , <b>efferent arteriole</b> ;</p> <p>2 build up of / high , <b>hydrostatic</b> / blood , pressure ;</p> <p>3 <b>endothelium</b> / wall , of , <u>capillary</u> / <u>glomerulus</u> , has , (small) pores / <b>fenestrations</b> ;</p> <p>4 (these allow) <b>ultrafiltration</b> ;</p>	2 max	<p>1 <b>IGNORE</b> different / larger / smaller, without suitable qualification</p> <p><b>IGNORE</b> thicker / thinner</p> <p>3 <b>ACCEPT</b> holes / gaps instead of pores</p> <p><b>IGNORE</b> epithelium</p> <p><b>DO NOT CREDIT</b> cell wall</p> <p><b>DO NOT CREDIT</b> podocytes / basement membrane if linked to capillary structure</p> <p><b>IGNORE</b> podocytes / basement membrane if linked to the Bowmans capsule</p>
			<p><b>QWC</b> – technical terms used appropriately and spelt correctly ;</p>		<p>1</p> <p>Use of <b>three</b> terms from: <b>afferent,</b> <b>efferent,</b> <b>arteriole,</b> <b>hydrostatic,</b> <b>endothelium,</b> <b>fenestrations,</b> <b>ultrafiltration</b> (or derived term)</p> <p><b>Please insert a QWC symbol next to the pencil icon,</b> <b>followed by</b> <b>a tick (✓) if QWC has been awarded</b> <b>or a cross (x) if QWC has not been awarded</b> <b>You should use the green dot to identify the QWC terms</b> <b>that you are crediting.</b></p>
5	(b)	(ii)	podocyte(s) ;	1	<b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b>



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Question			Answer	Marks	Guidance
5	(c)	(i)	<p><i>if kidney cannot filter so substances remain in blood</i></p> <p><b>1</b> increase / high , in urea ;  <b>2</b> increase / high , in , (named) ions / (named) salts ;  <b>3</b> increase / high , in water ;  <b>4</b> AVP ;</p> <p><b>OR</b></p> <p><i>if problems cause substances to be lost indiscriminately</i></p> <p><b>5</b> decrease / low , in , protein / blood cells ;  <b>6</b> decrease / low , in , (named) ions / (named) salts ;  <b>7</b> decrease / low , in , glucose / amino acids / vitamins ;  <b>8</b> decrease / low , in water ;</p>		<p><b>Candidate's answer can only come from one section of the mark scheme if type of failure not specified. However, all marks are available if clearly linked to the type of failure.</b></p> <p><b>3 IGNORE</b> ref to water potential  <b>4</b> e.g. • high(er) levels of , creatinine / (named) hormone  • high(er) levels of , metabolite / toxin , breakdown</p> <p><b>for mps 5-8 DO NOT CREDIT</b> 'no' / 'none' / 'zero'</p> <p><b>7 IGNORE</b> sugar  <b>8 IGNORE</b> ref to water potential</p> <p><b>Note</b>  'increase in urea' = 1 (mp 1)  'increase in salt and water' = 2 (mps 2 &amp; 3)  'low in protein but high in urea' = 1 (mp 5, but not mp 1 as different type of failure and has not been specified)</p>
				<b>2 max</b>	

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Question			Answer	Marks	Guidance
5	(c)	(ii)	<p><i>if not closely matched</i></p> <p><b>1</b> donated kidney will be recognised as , foreign / non-self ;</p> <p><b>2</b> antigens / glycoproteins , (on donated kidney) will be different ;</p> <p><b>3</b> causing rejection ;</p> <p><b>4</b> (response) by immune system ;</p> <p><b>5</b> use of immuno-suppressant drugs ;</p> <p><b>6</b> ref to need for suitable size in specific case (e.g. if recipient is a small child) ;</p>	<b>3 max</b>	<p><b>CREDIT</b> ora for all mark points</p> <p><b>1</b> Needs the idea of the body <i>recognising</i> the foreign nature</p> <p><b>4 CREDIT</b> a description of immune response <b>DO NOT CREDIT</b> ref to <u>autoimmunity</u></p>
			<b>Total</b>	<b>11</b>	

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Question		Answer	Marks	Guidance
6	(a)	<p>1 receptors ;</p> <p>2 intensity ;</p> <p>3 chemical ;</p> <p>4 potential / value ;</p> <p>5 impulse ;</p>	5	<p><b>Mark the first answer on each prompt line.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b></p> <p>1 <b>ACCEPT</b> receptor cells <b>DO NOT CREDIT</b> neurones / organs</p> <p>2 <b>IGNORE</b> brightness <b>DO NOT CREDIT</b> frequency</p> <p>3 <b>IGNORE</b> volatile / soluble</p> <p>4 <b>ACCEPT</b> 'level' / '(needed) for depolarisation' <b>IGNORE</b> numerical value quoted / 'receptor' <b>DO NOT CREDIT</b> action potential</p> <p>5 <b>ACCEPT</b> action potential <b>DO NOT CREDIT</b> message / signal / information / stimulus</p>

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Question			Answer	Marks	Guidance
6	(b)	(i)	<p><i>the motor neurone - structure</i></p> <p>the cell body is at (one) end of the , neurone / cell</p> <p><b>or</b></p> <p>the cell body is in , brain / spinal cord / CNS</p> <p><b>or</b></p> <p>dendrites connected (directly) to cell body</p> <p><b>or</b></p> <p>long(er) axon</p> <p><b>or</b></p> <p>no dendron</p> <p><b>or</b></p> <p>axon , connects to / ends at , effector / motor end plate ;</p>	1	<p><b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b></p> <p><b>IGNORE</b> ref to cell size / myelin(ation)</p> <p><b>DO NOT CREDIT</b> at end of axon / nerve</p> <p><b>IGNORE</b> reference to dendrite length</p> <p><b>CREDIT ora for sensory</b></p> <p>i.e. cell body is at centre of cell</p> <p><b>or</b></p> <p>cell body is in PNS</p> <p><b>or</b></p> <p>dendrites at the end(s) of , axon / dendron</p> <p><b>or</b></p> <p>short(er) axon</p> <p><b>or</b></p> <p>dendron present</p> <p><b>or</b></p> <p>connects to / starts at , receptor</p>

F214

Mark Scheme

January 2012

Question			Answer	Marks	Guidance
6	(b)	(ii)	<p><i>the motor neurone - function</i>  carries , impulse(s) / action potential(s) ,  from , brain / spinal cord / CNS / relay neurone  <b>or</b>  carries , impulse(s) / action potential(s) ,  to , effector / muscle / gland ;</p>	1	<p><b>Mark the first answer.</b> If the answer is correct and an additional answer is given that is incorrect or contradicts the correct answer then = <b>0 marks</b>  <b>IGNORE</b> refs to 'connects ...'  <b>DO NOT CREDIT</b> message / signal / information / stimulus  <b>DO NOT CREDIT</b> message / signal / information / stimulus</p> <p><b>CREDIT ora for sensory</b>  i.e. carries , impulse(s) / action potential(s) ,  to , brain / spinal cord / CNS / relay neurone  <b>or</b>  carries , impulse(s) / action potential(s) ,  from receptor</p>
			<b>Total</b>	<b>7</b>	

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