

Cambridge Technicals

Health and Social Care

Unit 4: Anatomy and physiology for health and social care

Level 3 Cambridge Technical in Health and Social Care

05830 – 05833

Mark Scheme for June 2018

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Annotations – These are the annotations to be used when marking Unit 4:

Annotation	Meaning
	Tick – correct answer
	Cross – incorrect answer
	Plus – use for positives
	Minus – use for negatives
	Level 1
	Level 2
	Level 3
	Benefit of doubt (This does count as a mark – so do not ‘tick’ as well)
	Omission mark
	Too vague
	Repeat
 or 	Noted but no credit given

Question		Answer	Marks	Guidance
1	(a)	<p>One mark for identification. Five required.</p> <p>Fixed joint CRANIUM</p> <p>Pivot joint NECK</p> <p>Sliding joint WRIST</p> <p>Ball and socket joint HIP</p> <p>Hinge joint KNEE</p>	<p>5 (5x1)</p>	<p>Annotation: The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p> <p>Allow alternative examples if correct</p>

Question		Answer	Marks	Guidance
1	(b)	<p>Two marks for an explanation. Two required.</p> <p>Osteoarthritis –</p> <ul style="list-style-type: none"> • wear and tear on joints – linked to sports etc • cartilage worn away by friction • other conditions (secondary arthritis) • Age – more common after menopause • Family history • Obesity • Female (possibly due mainly to posture and joint alignment) • Previous injury <p>Rheumatoid arthritis –</p> <ul style="list-style-type: none"> • autoimmune response • damages the cartilage (as if it were a “foreign body”) • thin layer of cells (synovium) become sore / inflamed • Releases chemicals that damage bones, cartilage, tendons, ligaments • Chemicals cause the joint to lose its shape and alignment • Eventually destroys the joint completely • Risk factors – genes / hormones / smoking • More common in females- probably genetic – most common ages 30-50 	<p>4 (2x2)</p>	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p> <p>The name of the type of arthritis is not required.</p> <p>Both examples could be from one type only.</p> <p>Two marks for each explanation.</p> <p>For each cause:</p> <ul style="list-style-type: none"> • one mark for cause given • one mark for further explanation provided. • ALLOW risk factors <p>Accept reduction in quantity of synovial fluid Accept reduction in size of gap</p>

Question		Answer	Marks	Guidance
1	(c)	<p>One mark for an identification. Four required.</p> <p>Any four points:</p> <ul style="list-style-type: none"> • Physiotherapy • Occupational therapy • Podiatry • Exercise • Hydrotherapy • Painkillers • NSAIDs / anti-inflammatory • Steroids • DMARDs • Biological treatments • JAK inhibitors • Weight reduction if obesity part of cause • Wearing suitable footwear • Using special devices to reduce the strain on your joints during everyday activities • If particularly severe then surgery (accept without further detail for one mark, but no mark if incorrect detail given e.g. addition of cartilage or synovial fluid)) • Artificial joint replacement (Arthroplasty) • Fusion of joint (Arthrodesis) 	<p>4 (4x1)</p>	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p> <p>NOT HRT</p> <p>Medication without further detail is TOO VAGUE Surgery is TOO VAGUE</p> <p>Do NOT accept “surgery to replace cartilage”</p> <p>If alternative answer given, check with reliable source and allow if correct (e.g.Arthritis U.K.)</p>

Question		Answer/Indicative content	Mark	Guidance	
				Content	Levels of response
1	(d)*	<p>Likely impacts of MS on movement:</p> <ul style="list-style-type: none"> • Plaques on long motor nerve tracts in brain or spinal cord may affect walking • Leg may drag. • Plaques on motor neurons to arms may cause “shakes” and/or loss of coordination. • Plaque on fibres in brainstem may affect balance. • Alternative periods of remission and relapses. • Progressive. • Spasm – may be painful deters from further movement • Spasticity – muscles become stiff and resistant to movement • Ataxia – difficulty with movement and coordination • Tremor – shaking of limbs • Dizziness and vertigo – leads to fear of attempting movement • Musculo-skeletal pain indirectly caused by poor posture or gait – puts pressure on lower back and hips - deters further movement. • Slowing of impulse transmission may make reflexes inadequate / lacking for protection purposes • Progression may lead to eventual paralysis and being confined to wheelchair 	9	<p>This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is explanation.</p> <p>Annotation:</p> <p>The number of ticks will not necessarily correspond to the marks awarded.</p> <p>Level 3 – checklist</p> <ul style="list-style-type: none"> • detailed explanation • related to movement • two or more impacts • factually accurate • correct terminology • QWC – high <p>Level 2 – checklist</p> <ul style="list-style-type: none"> • sound explanation • one or two impacts • related to movement • mostly factually accurate • some correct use of terminology • Sub-max of 3 if only one impact done well • QWC – mid 	<p>Level 3 [7 -9 marks]</p> <p>Answers provide a detailed explanation of two or more likely impacts of MS explicitly related to movement. Answers will be coherent, logically structured factually accurate and use appropriate terminology. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p>Level 2 (4–6 marks)</p> <p>Answers provide a sound explanation of one or two likely impacts of MS on movement. Answers will be factually accurate, presented with some structure and use appropriate terminology. There may be some errors of grammar, punctuation and spelling.</p> <p>Level 1 [1–3 marks]</p> <p>Answers provide a limited description of the likely impacts of MS on movement. May be a description / identification only. Use of appropriate terminology may be limited. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive.</p>

Question		Answer/Indicative content	Mark	Guidance	
				Content	Levels of response
		<ul style="list-style-type: none"> • Neuropathic pain (caused by disease itself) may deter from attempting movement • In MS demyelination of nerve tissues means nervous impulses cannot be carried correctly. • Impulses may “jump” or short circuit or be transmitted more slowly than normal • Scar tissue or plaques develop at site(s) of damage • Effects depends on siting of these plaques. 		<p>Level 1 – checklist</p> <ul style="list-style-type: none"> • limited / basic explanation • may be other effects of MS and little about movement • limited use of terminology • list like / muddled • QWC – low 	<p>Sub-max of 3 if only one impact done well</p> <p>0 marks – response not worthy of credit</p>

Question		Answer	Marks	Guidance
2	(a)	<p>One mark for an identification. Five required.</p> <p>A - Stomach</p> <p>B - Pancreas</p> <p>C - Large intestine</p> <p>D - Small intestine</p> <p>E - Rectum</p>	<p>5 (5x1)</p>	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>
2	(b)*	<p>One mark for an identification. Five required.</p> <p>Pancreatic juices play a part in digestion. They are released from the pancreas into the SMALL intestine. They neutralise the chyme (partially digested food from the stomach) because they are ALKALINE. They contain chemicals called ENZYMES which break down the food into smaller soluble molecules. These chemicals break down all three of the major food groups - carbohydrates, FATS and PROTEINS.</p>	<p>5 (5x1)</p>	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p> <p>The two last answers (fats and protein) may be in any order</p>

Question			Answer	Marks	Guidance
2	(c)	(i)	<p>One mark for an identification. One required.</p> <ul style="list-style-type: none">• Coeliac disease• Irritable Bowel Syndrome (IBS)• Gallstones	<p>1 (1x1)</p>	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>

Question			Answer	Marks	Guidance
2	(c)	(ii)	<p>Four marks for a description.</p> <p>Coeliac Disease:</p> <ul style="list-style-type: none"> • hypersensitivity to gluten • causes autoimmune response • walls of villi attacked • microvilli become damaged • villi appear flattened • surface area reduced • absorption of digestive products reduced / weight loss • abdominal pain <p>Need mention of (micro)villi destruction or reduced surface area for full marks</p> <p>IBS:</p> <ul style="list-style-type: none"> • intestinal disorder • affects the colon (the large intestine) • Muscles in colon do not work at the right speed • Or coordination with muscles in the rectum or pelvis is interrupted • Leads to abdominal cramps/ spasm, bloating, constipation and diarrhoea / pain 	4	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p> <p>Four marks:</p> <ul style="list-style-type: none"> • For a detailed, accurate description <p>Three marks:</p> <ul style="list-style-type: none"> • for a well-developed description <p>Two marks:</p> <ul style="list-style-type: none"> • for a description showing some understanding <p>One mark:</p> <ul style="list-style-type: none"> • for a simplified descriptions that lacks clarity

Question	Answer	Marks	Guidance
	<p>Gallstones:</p> <ul style="list-style-type: none"> • Block the normal flow of bile • Lodge in the ducts that carry bile from the liver to the small intestine • Bile builds up in your gall bladder leading to attacks • Gall bladder attacks cause pain in the upper right abdomen 		

Question	Answer/Indicative Content	Marks	Guidance	
			Content	Levels of response
2 (d)*	<p>Feedback mechanisms involved in maintaining a steady level of various chemicals in the body:</p> <p>Blood glucose system</p> <ul style="list-style-type: none"> • glucose levels monitored and controlled by cells in Islets of Langerhans in pancreas. • after a meal blood glucose level rises and is detected • cells release insulin • this enables cells to take up glucose • cells in liver and muscles change glucose to glycogen (storage compound) • blood glucose level falls • detected by cells • insulin production stops • blood glucose levels drop due to metabolic activity / exercise etc • cells detect this • release glucagon • causes (stored) glycogen to be 	8	<p>This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is explanation.</p> <p>One system described in both directions can count as two mechanisms</p> <p>Annotation:</p> <p>The number of ticks will not necessarily correspond to the marks awarded.</p> <p>Level 3 – checklist</p> <ul style="list-style-type: none"> • detailed explanation of feedback • two mechanisms need not be given in equal detail • well-developed, clear and logically structured • factually accurate • correct use of terminology 	<p>Level 3 [7–8 marks]</p> <p>Answers provide a fully detailed description of at least two feedback mechanisms in the body. Sentences and paragraphs are relevant and follow a logical sequence with accurate use of appropriate terminology. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p>Level 2 (4–6 marks)</p> <p>Answers provide a basic description of at one/two feedback mechanisms in the body. Answers will be factually accurate, presented with some structure and use appropriate terminology. There may be some errors of grammar, punctuation and spelling.</p>

Question	Answer/Indicative Content	Marks	Guidance	
			Content	Levels of response
	<p>turned back into glucose</p> <ul style="list-style-type: none"> released into blood stream blood glucose levels rise detected glucagon release stops <p>Osmoregulation and ADH</p> <ul style="list-style-type: none"> Pituitary gland produces ADH - affects permeability of nephron to water If blood water concentration fall, ADH production increases More water returned to blood Balance restored If blood water concentration rises Less ADH produced Less water returned to blood <p>Heat regulation</p> <ul style="list-style-type: none"> Hypothalamus senses temperature changes Vasodilation when hot brings more blood close to surface of skin Sweat glands release sweat – evaporation cools blood Vasoconstriction when cold – keeps blood away from body surface to reduce heat loss Hairs raised to trap air close to skin surface (insulator) Muscles shivering produces heat in muscles 		<ul style="list-style-type: none"> QWC – high <p>Level 2 – checklist</p> <ul style="list-style-type: none"> basic explanation mostly factually accurate mostly relevant information some correct terminology QWC – mid <p>Level 1 – checklist</p> <ul style="list-style-type: none"> limited explanation information may not be relevant limited structure may be list like / muddled minimal use of terminology QWC – low <p>If candidates mention blood and pH in relation to breathing this should be credited if correct</p>	<p>Level 1 [1–3 marks]</p> <p>Answers provide a limited description of one feedback. Use of appropriate terminology will be limited. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive.</p> <p>0 marks – response not worthy of credit</p>

Question		Answer	Marks	Guidance
3	(a)	<p>One mark for correct identification of the part of the eye. Five required.</p> <p>Tear glands</p> <p>Conjunctiva</p> <p>Cornea</p> <p>Iris</p> <p>Retina</p>	<p>5 (5x1)</p>	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>
3	(b)	(i) <p>Three marks for an explanation.</p> <p>Explain how cataracts affect functioning of the eye:</p> <ul style="list-style-type: none"> • Cataracts are clouding of lens • Lens completes focusing of light on retina • Light is poorly focussed initially – may not be noticed • Increasing cloudiness eventually means vision becomes blurred / eventual sight loss • Colour acuity may lessen due to light being scattered differently • Halos around lights • Poor night vision <p>Mention of lens required for full marks</p>	<p>3</p>	<p>Three marks:</p> <ul style="list-style-type: none"> • for a well-developed explanation <p>Two marks:</p> <ul style="list-style-type: none"> • for an explanation showing some understanding <p>One mark:</p> <ul style="list-style-type: none"> • for a simplified explanation that lacks clarity <p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>

Question			Answer	Marks	Guidance	
					Content	Levels of response
3	(b)	(ii)*	Monitoring for cataracts: <ul style="list-style-type: none"> • Eye tests • Visual acuity exam • Regular check-ups 	5	<p>This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is assessment.</p> <p>Annotation:</p> <p>The number of ticks will not necessarily correspond to the marks awarded.</p> <p>Level 2 – checklist</p> <ul style="list-style-type: none"> • detailed description • monitoring and one treatment well done • well-developed, clear and logically structured • factually accurate • QWC – high <p>Level 1 – checklist</p> <ul style="list-style-type: none"> • limited / basic • one treatment • limited structure may be list like / muddled • QWC – mid - low 	<p>Level 2 [4–5 marks]</p> <p>Answers provide a detailed description of monitoring and treatment for cataracts. Answers include accurate use of terminology and follow a logical sequence. Sentences and paragraphs are relevant. There will be few errors, if any, of grammar, punctuation and spelling.</p> <p>Level 1 [1–3 marks]</p> <p>Answers provide a description of monitoring and treatment for cataracts in a limited manner. At the lower end answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive.</p> <p>0 marks – response not worthy of credit.</p>

Question			Answer	Marks	Guidance
3	(c)	(i)	<p>Axons carry "message" away from cell body (soma). (1)</p> <p>Dendrons carry "message" towards from cell body (soma) (1)</p> <p>If candidate identifies that direction is different award 1 mark. Second mark requires relative direction to be correct</p>	2	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>
3	(c)	(ii)	<p>Synapse is gap between two nerve cells.</p> <p>Neurotransmitter (chemical) released from one side (1)</p> <p>Triggers ongoing message at other side of gap (1)</p>	2	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p> <p>ALLOW one mark for simple identification of what a synapse is.</p>

Question		Answer	Marks	Guidance
4	(a)	<p>Two marks for an explanation. Two required.</p> <p>Reasons why the heart is referred to as a double pump</p> <ul style="list-style-type: none"> • Two completely separate sides (L & R) – blood kept separate so functions as two pumps • Top chambers (atria) contract – two lower chambers (ventricles) contract separately • Right side pumps blood to lungs – left side pumps blood around the body – two separate circuits • Blood passes through the heart twice to make a complete circuit • Blood at R side is de-oxygenated / blood at L side is oxygenated 	<p>4 (2x2)</p>	<p>Two marks for each reason given:</p> <p>One mark: For reason stated</p> <p>Two marks: For reason stated and further explanation provided</p> <p>Annotation: The number of ticks must match the number of marks awarded. For an incorrect answer use the cross.</p>

Question		Answer	Marks	Guidance
4	(b)	<p>Four marks for an explanation.</p> <p>What the ECG trace tells us about what is happening in the heart:</p> <ul style="list-style-type: none"> • waves represent the electrical activity of heart • different sections represent different activities within heart • P wave at the beginning shows atrial contraction • QRS shows ventricular contraction (systole) • T ventricles relaxing (diastole) - repolarisation • if waves disordered / out of rhythm etc. indicates which part of the heartbeat is “wrong” • shows if heart rate is too fast • shows if heart rate is too slow • shows if heart rate is irregular • indicates abnormal heart conditions (heart attack / heart valve conditions) 	4	<p>Link to electrical activity required to satisfy explain. Three marks available if this is missing</p> <p>Four marks:</p> <ul style="list-style-type: none"> • For a detailed, accurate description <p>Three marks:</p> <ul style="list-style-type: none"> • for a well-developed description <p>Two marks:</p> <ul style="list-style-type: none"> • for a description showing some understanding <p>One mark:</p> <ul style="list-style-type: none"> • for a simplified descriptions that lacks clarity <p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>

Question		Answer	Marks	Guidance
4	(c)	<p>Four marks for a description.</p> <p>How blood plasma becomes tissue fluid and lymph</p> <ul style="list-style-type: none"> • blood plasma in capillaries – forced out through “leaky” capillary walls • by hydrostatic pressure (pressure from heart pumping) • fluid carries nutrients and oxygen to cells of tissues (now known as tissue fluid) • this fluid must return to circulatory system otherwise oedema occurs • majority of fluid returns to capillaries • remaining fluid (10%) drains into lymph vessels • this re-joins blood system near top of body 	4	<p>Four marks:</p> <ul style="list-style-type: none"> • for a well-developed description with all three fluids mentioned <p>Three marks:</p> <ul style="list-style-type: none"> • for a well-developed description with possibly only two of the fluids linked <p>Two marks:</p> <ul style="list-style-type: none"> • for a description showing some understanding <p>One mark:</p> <ul style="list-style-type: none"> • for a simple description/statement that lacks clarity <p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>

Question			Answer	Marks	Guidance
4	(d)	(i)	Any two from: <ul style="list-style-type: none">• Removal of urea• Regulation of water levels / Osmoregulation• (Ultra)filtration (filters blood)• Reabsorption• Salt regulation• Urine production	2	One mark for each correct answer Annotation: The number of ticks must match the number of marks awarded. For an incorrect answer use the cross .

Question			Answer/Indicative content	Marks	Guidance	
					Content	Levels of response
4	(d)	(ii)*	<ul style="list-style-type: none"> Blood in renal artery enters glomerulus. Blood at very high pressure so much of plasma forced out (<i>ultrafiltration</i>) Small molecules (urea, glucose, amino acids, vitamins, mineral salts) removed with much of the water. Blood cells and proteins remain in blood as too large (if kidney working properly) Along proximal tubule most of the water, all glucose, amino acids, vitamins & most mineral salts move back into blood vessel running alongside. (<i>reabsorption</i>) NO urea returns. In medulla (Loop of Henle) a specialist blood supply removes salt from urine which then allows more water back into blood to balance osmotic potential of body. (<i>osmoregulation</i>) Blood leaving in renal vein should have no urea but other substances in balance. (<i>removal of urea</i>) Collecting ducts lead urine to the bladder 	7	<p>This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is description.</p> <p>Annotation:</p> <p>The number of ticks will not necessarily correspond to the marks awarded.</p> <p>Level 3 – checklist</p> <ul style="list-style-type: none"> detailed description (2 functions) well-developed, clear and logically structured factually accurate correct use of terminology QWC – high <p>Level 2 – checklist</p> <ul style="list-style-type: none"> description mostly factually accurate mostly relevant information some correct use of terminology qwc – mid <p>Level 1 – checklist</p> <ul style="list-style-type: none"> basic description information may not be relevant limited structure may be list like / muddled minimal use of terminology 	<p>Level 3 [6–7 marks]</p> <p>Answers provide a fully detailed description of how the kidney carries out at least two of its functions. Sentences and paragraphs are relevant and follow a logical sequence with accurate use of appropriate terminology. There will be few errors, if any, of grammar, punctuation and spelling.</p> <p>Level 2 (4-5 marks)</p> <p>Answers provide a description of how the kidney carries out at least two of its functions and includes some accurate use of terminology. Answers are presented with some structure and are relevant using some accurate terminology. There may be some errors of grammar, punctuation and spelling.</p> <p>Submax 4 for one function done well</p> <p>Level 1 [1–3 marks]</p> <p>Answers provide a limited description of how the kidney carries out its function(s).</p> <p>Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar</p>

Question			Answer/Indicative content	Marks	Guidance	
					Content	Levels of response
					<ul style="list-style-type: none"> QWC – low 	and spelling may be noticeable and intrusive. 0 marks – response not worthy of credit.

Question		Answer	Marks	Guidance
5	(a)	<p>One mark for an identification. Three required.</p> <p>Epiglottis</p> <p>Larynx</p> <p>Trachea (accept bronchus)</p>	3	<p>Annotation:</p> <p>The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>

Question	Answer/Indicative content	Marks	Guidance	
			Content	Levels of response
5	(b)* How breathing occurs: <u>Breathing in</u> <ul style="list-style-type: none"> nervous messages are sent to the diaphragm and intercostal muscles intercostal muscles (between the ribs) contract – raising the ribcage upwards and outwards diaphragm muscle contracts – moving in a downward direction pleural membranes are attached to lungs, inside of ribcage and diaphragm therefore movement of the lungs is brought about air is brought into the lungs because of resultant pressure and volume changes <u>Breathing out</u> <ul style="list-style-type: none"> nervous impulse stop and diaphragm and intercostal muscles relax rib cage swings down and in due to gravity diaphragm returns to its dome-shaped position pressure /volume changes push air out of the lungs the diaphragm can put additional pressure on the lungs to increase emptying of the lungs 	6	<p>This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is explanation.</p> <p>Annotation:</p> <p>The number of ticks will not necessarily correspond to the marks awarded.</p> <p>Level 3 – checklist</p> <ul style="list-style-type: none"> detailed explanation clear and logically structured role of pleural membranes must be mentioned correct nomenclature for full marks factually accurate correct use of terminology QWC – high <p>Level 2 – checklist</p> <ul style="list-style-type: none"> sound explanation mostly factually accurate mostly relevant information some correct terminology QWC – mid <p>Level 1 – checklist</p> <ul style="list-style-type: none"> basic explanation information may not be relevant limited structure may be list like / muddled 	<p>Level 3 [5-6 marks]</p> <p>Answers provide a fully detailed explanation of how breathing occurs, including the role of the pleural membranes. For full marks the correct nomenclature should be used. Sentences and paragraphs are relevant and follow a logical sequence with accurate use of appropriate terminology. There will be few errors, if any, of grammar, punctuation and spelling.</p> <p>Level 2 (3-4 marks)</p> <p>Answers provide an explanation of how breathing occurs that includes some use of accurate terminology. Answers are presented with some structure and include relevant information. There may be some errors of grammar, punctuation and spelling.</p> <p>Level 1 [1-2 marks]</p> <p>Answers provide a limited explanation of how breathing occurs. Use of appropriate</p>

Question	Answer/Indicative content	Marks	Guidance	
			Content	Levels of response
			<ul style="list-style-type: none"> minimal use of terminology QWC – low <p>No credit for “route map” or description of gaseous exchange</p>	<p>terminology may be limited. Sentences and paragraphs are not always relevant, with the material presented in a way that does not always address the question.</p> <p>0 marks – response not worthy of credit.</p>

Question			Answer	Marks	Guidance
5	(c)	(i)	<p>One mark for an identification. One required.</p> <ul style="list-style-type: none"> Medulla (oblongata) 	1	<p>Annotation: The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>
5	(c)	(ii)	<p>One mark for an identification. One required.</p> <p>One other process controlled by this part of the brain:</p> <ul style="list-style-type: none"> heart rhythm / rate blood pressure / vasoconstriction swallowing digestion 	1	<p>Annotation: The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p> <ul style="list-style-type: none"> Allow vomiting sneezing and coughing

Question			Answer/Indicative content	Marks	Guidance
5	(d)	(i)	<p>One mark for an identification. One required.</p> <p>One from the following:</p> <ul style="list-style-type: none">• Asthma• Emphysema• Cystic fibrosis	1	<p>Annotation: The number of ticks must match the number of marks awarded.</p> <p>For an incorrect answer use the cross.</p>

Question			Answer/Indicative content	Marks	Guidance	
5	(d)	(ii)*	<p>Evaluate the methods of monitoring and treatment</p> <p>Emphysema:</p> <p>Treatment aims to stabilise the condition and prevent complications</p> <p>Lung function tests / chest x-ray / CT scan</p> <p>Inhalers / nebulisers (bronchodilators) – widen the airways and make breathing easier</p> <ul style="list-style-type: none"> • Corticosteroid drugs • Oxygen therapy • Chest drain • Antibiotics to treat bacterial infection • Quit smoking • Healthy diet • Exercise • Drinking lots of water • Avoid cold air <p>Cystic Fibrosis:</p> <ul style="list-style-type: none"> • No cure, but a range of treatments can help control the symptoms – this can help make the condition easier to live with 	5	<p>This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is evaluation.</p> <p>Annotation:</p> <p>The number of ticks will not necessarily correspond to the marks awarded.</p> <p>Level 2 – checklist</p> <ul style="list-style-type: none"> • sound evaluation • mostly factually accurate • mostly relevant information • some correct use of terminology • QWC – mid <p>Level 1 – checklist</p> <ul style="list-style-type: none"> • limited /basic evaluation • information may not be relevant • limited structure may be list like / muddled • minimal use of terminology • QWC – low 	<p>Level 2 (4-5 marks]</p> <p>Answers will provide an evaluation of the monitoring and treatment for their chosen dysfunction. One treatment will be evaluated well at upper end of this level. Answers will be factually accurate, presented with some structure and use appropriate terminology. There may be some errors of grammar, punctuation and spelling.</p> <p>Sub-max of 3</p> <p>If no qualitative judgements about treatment given e.g. quitting smoking most important single treatment and slows progress</p> <p>Level 1 [1-3 marks]</p> <p>Answers provide a limited (or no) evaluation of the monitoring or treatment for their chosen dysfunction but may simply identify or describe. Answers may be list like or muddled and demonstrate little knowledge or understanding. Errors of</p>

Question	Answer/Indicative content	Marks	Guidance
	<ul style="list-style-type: none"> • Regular appointments to monitor the condition • Different medicines needed to treat and prevent lung problems • Antibiotics to prevent and treat chest infections • Medicines to make the mucus in the lungs thinner and easier to cough up • Bronchodilators – widen the airways and make breathing easier • Steroid medicine to treat small growths inside the nose • Exercise can help • Physiotherapy / vibrating jackets • Airway clearance techniques • Healthy diet • Lung transplant (in severe cases) • Monitoring by lung function tests and bacterial assays <p>Asthma:</p> <ul style="list-style-type: none"> • Monitoring by peak flow or spirometry (unusually) • Regular checks with GP / asthma nurse 		<p>grammar and spelling may be noticeable and intrusive.</p> <p>0 marks – response not worthy of credit.</p> <p>Accept “asthma pump” instead of inhaler Credit (1mark) for saying there are two different types of inhaler</p>

Question	Answer/Indicative content	Marks	Guidance	
	<ul style="list-style-type: none"> • Use of a reliever inhaler – fast acting – gives immediate effect – relaxes muscles of bronchi. • Use of a preventer inhaler – must be used regularly for best effect – may keep individual symptom-free – reduces inflammation, reduces sensitivity of airways. • Inhalers must be used correctly – many have poor technique – can be difficult for young children. • Steroid or other medication may be required if inhalers fail or during a flare-up – have side effects so best avoided. • Use of spacer with inhaler improves uptake of drug • Inhalers portable, unobtrusive • Use of nebuliser improves uptake of drug • Awareness of triggers and avoidance where possible may reduce symptoms – may be unable to avoid some things e.g. weather conditions. • Attend check-ups regularly – may be a nuisance – may get deterioration if not done. • Flu jab annually – gives some protection – don't like being "labelled" as at risk. • Exercise regularly as recommended – some afraid – some use their asthma as an excuse for low activity. 			

Question			Answer/Indicative content	Marks	Guidance	
			<ul style="list-style-type: none">• Keep weight within healthy limits – reduces risk of increased attacks – may be tempted to “comfort eat” because of diagnosis.• In general, most asthmatics can lead a full and active life helped by medication <p>Accept any other relevant point.</p>			

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