OCR
Oxford Cambridge and RSA

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 January 2019

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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

Annotation	Meaning
	Tick – correct answer
	Cross – incorrect answer
	Development of point (use only on questions where stated in the mark scheme)
L1	Level 1
L2	Level 2
L3	Level 3
BOD	Benefit of doubt (This **does** count as a mark – so do not 'tick' as well)
^	Omission mark
TV	Too vague
REP	Repeat
SEEN	Noted but no credit given

Question			Answer	Marks	Guidance
1	(a)	(i)	**One** mark for each correct identification. **Three** required. **A** = cerebral cortex **B** = cerebellum **C** = hypothalamus	**3** (3x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following: **No other answers are acceptable.**
	(a)	(ii)	**One** mark for a correct identification. **One** required. It controls autonomic functions such as heart rate ✓ It controls speech and language It coordinates movement of muscles It coordinates speech and language	**1** (1x1)	**No other answers are acceptable.** **If more than one box is ticked:** 0 marks
	(b)	(i)	**One** mark for correct identification. **One** required. • Myelin sheath Also accept: • Schwann cell	**1** (1x1)	For **incorrect** answers use the **cross.** **Do not accept myelin**

Question			Answer/indicative content	Marks	Guidance	
					Content	Levels of response
1	(b)	(ii)*	**Examples of possible treatments:** **Medications will help manage:** • Fatigue e.g. amantadine • Muscle stiffness and spasms i.e. muscle relaxants • Dizziness or tremors • Steroids to reduce autoimmune response • Neuropathic and musculoskeletal pain i.e. pain killers • Emotional problems i.e. antidepressants • Bladder, bowel problems • Sexual dysfunction e.g. Viagra • Visual problems e.g. steroids **Physiotherapy will help manage:** • Muscle stiffness and spasms • Mobility issues • Musculoskeletal pain • Problems with balance • Numbness **Others:** • Speech, Occupational and Psychological Therapy sessions to help with communication, independence, depression, emotional problems, sexual dysfunction • Disease-modifying therapies **Some points for consideration/analysis:** • MS cannot be cured but treatments	**8**	This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is **explain**. **Annotation:** The number of ticks will not necessarily correspond to the marks awarded. **Level 3 checklist:** • Identifies at least 2 treatments and explains at least 2 ways they help manage symptoms • detailed explanation • explicitly linked to symptoms • appropriate terminology • well-developed line of reasoning • logically structured • QWC - high **Level 2 checklist:** • Identifies 1 or 2 treatments and explains 1 or 2 ways they help manage symptoms • with explanation and some reference to symptoms, but may be implicit • mostly relevant and accurate information • QWC - mid **Level 1 checklist:** • Identifies 1 treatment and explains 1 way they help manage symptoms • limited / basic explanation • basic information	**Level 3 [7-8 marks]** Answers provide a detailed explanation of how possible treatments will help to manage the symptoms of MS. Answers explicitly linked to symptoms. Answers will be coherent, factually accurate and use appropriate terminology. There will be few, if any, errors of grammar, punctuation and spelling. **Level 2 [4-6 marks]** The answer provides a sound explanation of how possible treatments will help to manage the symptoms of MS. Answers will be factually accurate. There may be some errors of grammar, punctuation and spelling. **Sub-max of 4** if 1 treatment done well **Level 1 [1-3 marks]** Answer provides a limited or basic explanation of how the possible treatments will help to manage the symptoms of MS. May be a description/identification only. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive. **0 marks –** response not worthy of credit. SEEN for a zero mark response

Question	Answer/indicative content	Marks	Guidance	
			Content	Levels of response
	help alleviate symptoms • side effects of medications e.g. nausea and dizziness • some medications can worsen symptoms e.g. fatigue • some medications have limited effects		• just links treatments with no links to how it helps manage symptoms • limited structure, may be list like or muddled • QWC – low	Don't credit support e.g. wheelchairs or personal assistants as methods of treatment

Question			Answer	Marks	Guidance
1	(c)		Any **four** points below used to describe stages (using diagram): • Gap between neurones is the synapse/synaptic cleft • Nerve impulse arrives at gap • Vesicles release neurotransmitter molecules • Neurotransmitter is called acetylcholine • Neurotransmitter diffuses across the gap • Neurotransmitter attaches to receptors / receiving neurone • Nerve impulse occurs in receiving neurone	**4** (4x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following: **It is possible for two marks to be awarded in one sentence e.g. ' Vesicles release acetylcholine' would gain mps 3 ands 4.** Be careful of learners repeating text from the diagram Learners can get multiple marks for one step. For example - Neurotransmitter is diffuse across the synapse

Question			Answer	Marks	Guidance
2	(a)		**One** mark for each correct answer, **six** required. The answers **must** be given as ordered below to complete the sentences in the passage • plasma • temperature regulation • erythrocytes • neutrophils • fragments • blood clotting	**6** (6x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following:
2	(b)	(i)	**One** mark for a correct answer, **one** required. • high blood pressure • blood pressure that is higher than normal	**1** (1x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following:

Question			Answer/indicative content	Marks	Guidance	
					Content	Levels of response
2	(b)	(ii)*	**Lifestyle changes to include:** • **Changes in diet** e.g. eat balanced diet with low salt and low fat – relatively easy to follow diet plans-for people who eat foods high in salt and fat this have positive outcome for reducing hypertension or help lose weight-could be income dependent as fresh / healthier foods e.g. fruit and vegetables seen as more expensive. People may struggle to prepare healthy meals or stick to dietary plans • **Changes in exercise routine** e.g. taking regular exercise - help to prevent weight gain-promote weight loss- lower BMI -if already obese will have positive outcomes and reduce hypertension. Links with dietary changes-could be a problem if medical condition prevents from undertaking exercise routine. People maybe too embarrassed to exercise or struggle with motivation • **Changes in social activities** e.g. stop smoking, reduce alcohol intake, reduce caffeine intake-heavy smokers or heavy drinkers will see biggest improvements. Might struggle to quit due to addiction/dependency or due to peer pressure • **Changes in lifestyle routine** e.g. getting sufficient sleep, reducing	6	This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is **evaluate**. **Annotation:** The number of ticks will not necessarily correspond to the marks awarded. **Level 3 checklist:** • At least two aspects for lifestyle change • both positives and negatives • well-developed, clear and logically structured • factually accurate & relevant • correct use of terminology • QWC – high **Level 2 checklist:** • Two aspects of lifestyle change • both positives and negatives of one aspect of lifestyle change • mostly relevant and accurate information • QWC - mid **Level 1 checklist:** • limited / basic evaluation • basic information • positive or negative aspect of one lifestyle change • limited structure, may be list like or muddled • QWC – low	**Level 3 [5-6 marks]** Answers provide a detailed evaluation of at least two lifestyle changes using accurate terminology and following a logical sequence. Both positives and negatives will be given. Sentences and paragraphs are relevant with accurate use of appropriate terminology. There may be occasional errors of grammar, punctuation and spelling. **Level 2 [3-4 marks]** The answer provides a sound evaluation of possible lifestyle changes. Positive and negative for one change. Answers will be factually accurate. There may be some errors of grammar, punctuation and spelling. **Sub-max 2** if no evaluation **Level 1 [1-2 marks]** Answer provides a limited or basic evaluation with either positive or negative aspect of one lifestyle change. May be a description / identification only. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive. **0 marks –** response not worthy of credit. SEEN for a zero mark response

Question			Answer/indicative content	Marks	Guidance	
					Content	Levels of response
			stress, regular health checks especially blood pressure monitoring- dependent on stressful jobs-can be difficult for some people to make such lifestyle changes due to need for income			For life changes to be credited there has to be idenication of how it will be changed e.g. reduction in alcohol consumption

Question		Answer	Marks	Guidance
2	(c)	<table><tr><th>Process (one mark)</th><th>Part of nephron involved (one mark)</th></tr><tr><td>Ultrafiltration</td><td>• Bowman's capsule • glomerulus</td></tr><tr><td>Reabsorption</td><td>• Proximal tubule/ Convoluted tubule/ Proximal convoluted tubule</td></tr><tr><td>Water regulation Osmoregulation Accept - Control of water levels</td><td>• Loop of Henle • Collecting duct</td></tr></table>	**2** (2x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following: **One mark for:** • A correct process. **One mark for**: • The part of the nephron involved. - **must correctly match the process.** Do Not Accept filtration for ultrafiltration

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2</td><td>(d)</td><td></td><td>One mark for each correct answer, three required.

Third row has been done for them

<table>
<tr><th>Structure within the kidney</th><th>Letter</th></tr>
<tr><td>Cortex</td><td>Y</td></tr>
<tr><td>Medulla</td><td>Z</td></tr>
<tr><td>Renal vein</td><td>V</td></tr>
<tr><td>Ureter</td><td>W</td></tr>
</table>
</td><td>3
(3x1)</td><td>No other answers are acceptable.

For incorrect answers use the cross.</td></tr>
<tr><td></td><td>(e)</td><td>(i)</td><td>One mark for correct identification, one required.

Answer = deamination</td><td>1
(1x1)</td><td>No other answers are acceptable.

For incorrect answers use the cross.

0 if more than 1 box ticked</td></tr>
</table>

Question			Answer/Indicative content	Marks	Guidance	
					Content	Levels of response
2	(e)	(ii)*	**Possible causes of cirrhosis:** • drinking too much alcohol (accept drinking) over many years • hepatitis infection over a long period of time, e.g. hepatitis C • fatty liver disease accept fatty diet **Accept other relevant examples** **Effects on liver function:** • liver cells (hepatocytes) are damaged • scar tissue forms • disrupts bile production e.g. bile builds up and released into blood • disrupts production of proteins e.g. albumin/blood clotting proteins • disrupts ability to breakdown toxins e.g. alcohol • Ascites can develop • In extreme cases liver failure can occur • Jaundice can develop • Storage of glycogen is disrupted Don't accept any links to production of urea	6	This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is **discuss**. **Annotation:** The number of ticks will not necessarily correspond to the marks awarded. **Level 3 checklist:** • at least 2 causes • detailed discussion • clear knowledge & understanding of cause and effects of cirrhosis • links excessive alcohol to extended period of time • appropriate terminology • well-developed line of reasoning • logically structured • QWC - high **Level 2 checklist:** • at least 1 cause • sound discussion • some reference to aspects of cause and effects of cirrhosis • Is clear that alcohol consumption is excessive • mostly relevant and accurate information • QWC - mid **Level 1 checklist** • limited / basic discussion	**Level 3 [5-6 marks]** Answers provide a detailed discussion of cause and effects of cirrhosis. Answers will be coherent, logically structured, factually accurate and use appropriate terminology. There will be few, if any, errors of grammar, punctuation and spelling. **Level 2 [3-4 marks]** The answer provides a sound discussion of cause and effects of cirrhosis. Answers will be factually accurate. There may be some errors of grammar, punctuation and spelling. **Sub-max** of **3** if only causes or only effects of cirrhosis done well. **Level 1 [1-2 marks]** Answer provides a limited or basic discussion of cause and effects of cirrhosis. May be a description / identification only. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive. **0 marks –** response not worthy of credit. SEEN for a zero mark response

Question			Answer/Indicative content	Marks	Guidance	
					Content	Levels of response
					• unclear about the issues with alcohol consumption • basic information limited structure, may be list like or muddled • QWC – low	

Question			Answer	Marks	Guidance
3	(a)	(i)	**One** mark for each correct component, **three** required. **Function** / **Component** Attaches bone to bone / **ligament** Lubricates and nourishes the joint / **synovial fluid** Reduces friction during movement / **cartilage**	**3** (3x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following: **No other answers are acceptable.**

Question			Answer	Marks	Guidance
	(a)	(ii)	Points can be made as follows: • Muscles are antagonistic • Muscles work in pairs • Muscles can pull but can't push • One muscle contracts/shortens to bend joint/bring about movement • Other muscle in pair contracts to straighten joint • When one muscle contracts the other muscle relaxes • One muscle is the agonist and the other is the antagonistic Be aware of comments where two points are made e.g Muscles work in antagonistic pairs	**4** (4x1)	**Annotation:** The number of ticks must match the number of marks awarded. For incorrect answers use the cross or appropriate annotation from the following: **Four marks**: for a well-developed explanation using four points **Three marks**: for a well-developed explanation using three points **Two marks**: for an explanation using two points **One mark**: for a simple explanation/statement that lacks clarity

Question		Answer/Indicative content	Marks	Guidance	
				Content	Levels of response
3	(b)*	**Explain the options that are available to Harry to treat his arthritis.** **Examples with explanation to include:** • Steroids/ NSAIDs / anti-inflammatories which reduce swelling and inflammation of joint • drugs e.g. paracetamol to alleviate pain • (cortico) steroid injections into the joint to reduce swelling • Regular low intensity exercise e.g. swimming to maintain mobility • Weight loss if overweight to reduce pressure on the joints • Joint manipulation e.g. physiotherapy to strengthen muscles around joint / keep joint flexible • Support devices e.g. walking sticks which take off some of the weight off the joint. E.g. splint/brace to support joint. E.g. footwear to reduce forces passing through the joint • Surgery e.g. arthroscopy to clean debris in joint or knee replacement to renew affected joint • Complementary therapies e.g. supplements such as glucosamine and chondroitin. These are considered to alleviate symptoms. Except any other correct treatments	5	This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is explain. **Annotation:** The number of ticks will not necessarily correspond to the marks awarded. **Level 2 checklist:** • At least 2 treatments with sound explanation • some reference to nature of treatments • may consider effects • mostly relevant and accurate information • QWC – mid to high **Level 1 checklist** • 1 treatments with • limited / basic explanation • basic information • limited structure, may be list like or muddled • QWC – low	**Level 2 [4-5 marks]** The answer provides a sound explanation of treatments available. Answers will be factually accurate and use some appropriate terminology There may be some errors of grammar, punctuation and spelling. **Level 1 [1-3 marks]** Answer provides a limited or basic explanation of treatments available. May be a description/identification only. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive. **0 marks –** response not worthy of credit. SEEN for a zero mark response

Question			Answer	Marks	Guidance
4	(a)		**One** mark for each correct point made, **four** required. Points can be made from following: **Mechanical points** • Mechanical digestion occurs • Food is chewed • Made malleable/bolus is formed • Salivary glands produce saliva • Food is lubricated • Food is swallowed and enters oesophagus • Oesophagus performs peristalsis (accept pushes/moves food to the stomach) **Chemical points** • Chemical digestion occurs • Saliva contains enzyme (amylase) • Starch/carbohydrates is broken down into simple sugars (glucose/maltose)	**4** (4x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following: **Four marks**: for a well-developed description with **four** points to include mechanical **and** chemical aspects **Three marks**: for a well-developed description with **three** points to include mechanical **and** chemical aspects **Two marks**: for description using at least **two** points to include mechanical **or** chemical aspects **One mark**: for **one** description Do not credit any reference to digestion in the stomach

Question			Answer	Marks	Guidance
4	(b)	(i)	**One** mark for correct answer. • stomach	**1** (1x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross.** **No other answers are acceptable.**
4	(b)	(ii)	**One** mark for each correct answer, **two** required. • pancreas • liver • small intestine • stomach	**2** (2x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross.**
4	(b)	(iii)	**One** mark for correct answer. • gall bladder	**1** (1x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross.** **No other answers are acceptable.**
4	(b)	(iv)	**One** mark for correct answer. • small intestine	**1** (1x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross.** **No other answers are acceptable.**

Question		Answer/Indicative content	Marks	Guidance	
				Content	Levels of response
4	(c)*	**Why he has been advised not to eat foods containing wheat, key points:** • Coeliac disease is an autoimmune disease. • Immune response is triggered by protein in wheat called gluten. • So foods such as pasta, bread and cereals can trigger the response • Small projections called villi/microvilli found in lining of small intestine are damaged by the immune response. • Small intestine can become inflamed. • Absorption of nutrients takes place in small intestine so this process is affected. This will trigger symptoms such as bloating, abdominal pain etc. • Coeliac can cause other diseases e.g. anaemia, osteoporosis	6	This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is **explain**. **Annotation:** The number of ticks will not necessarily correspond to the marks awarded. **Level 3 checklist:** • detailed explanation • clear knowledge & understanding of causes of Coeliac disease • explicitly linked to effects of wheat-containing foods on small intestine • appropriate terminology • well-developed line of reasoning • logically structured • QWC - high **Level 2 checklist:** • sound explanation • some reference to causes of Coeliac disease • some reference to effects of wheat-containing foods on small intestine • mostly relevant and accurate information • QWC - mid **Level 1 checklist:** • limited / basic explanation • basic information	**Level 3 [5-6 marks]** Answers provide a detailed explanation of the effects of eating foods containing wheat. Answers will be coherent, logically structured, factually accurate and use appropriate terminology. There will be few, if any, errors of grammar, punctuation and spelling. **Must reference destruction of villi affecting absorption to achieve L3** **Level 2 [3-4 marks]** The answer provides a sound explanation of the effects of eating foods containing wheat. Answers will be coherent, factually accurate and use some appropriate terminology. There may be some errors of grammar, punctuation and spelling. **Level 1 [1-2 marks]** Answer provides a limited or basic explanation of the effects of eating foods containing wheat. May be a description/identification only. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive. **0 marks –** response not worthy of credit. SEEN for a zero mark response

Question		Answer/Indicative content	Marks	Guidance	
				Content	Levels of response
				• may not be specifically linked to the explanation of effects of wheat on small intestine • limited structure, may be list like or muddled • QWC – low	

Question			Answer	Marks	Guidance
4	(d)	(i)	**One** mark for each correct point made, **two** from list below required. e.g. chemical messenger carried in blood = 2 marks • Chemical messenger • Produced by glands (accept organs) • Carried by blood • Act on specific organ Chemical alone is too vague Simply naming a hormone is too vague ***Credit any explained example e.g. adrenalin is produced by the adrenal glands and causes the heart to beat faster (2 marks)***	**2** (2x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following:

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>4</td><td>(d)</td><td>(ii)</td><td>One mark for each correct answer, four required.

<table><tr><th>Statement</th><th>True or False</th></tr><tr><td>Diabetes is caused when the pancreas produces too much insulin</td><td>False</td></tr><tr><td>The hormone glucagon is produced by the pancreas</td><td>True</td></tr><tr><td>The pancreas produces the hormone insulin</td><td>True</td></tr><tr><td>Type II diabetes is caused when cells in the pancreas are destroyed during childhood</td><td>False</td></tr></table></td><td>4
(4x1)</td><td>Annotation:
The number of ticks must match the number of marks awarded.

For incorrect answers use the cross or appropriate annotation from the following:

No other answers are acceptable.</td></tr>
<tr><td>4</td><td>(e)*</td><td>(i)</td><td>Eye Malfunction:
• Glaucoma
• AMD
• Cataracts
• Retinopathy

Ear malfunction:
• Deafness/Hearing loss/Conductive hearing loss/Sensioneural hearing loss</td><td>1
(1x1)</td><td>Annotation:
The number of ticks must match the number of marks awarded.

For incorrect answers use the cross.</td></tr>
</table>

Question			Answer	Marks	Guidance	
					Content	Levels of response
4	(e)*	(ii)	Impact on lifestyle of following disorders: **Glaucoma, cataracts, AMD and retinopathy** • problems with driving and reading • affect on life aspects such as work and sports • loss of independence e.g. mobility • emotional impacts such as increased fear of accidents, loss of self-esteem • impact on social activities e.g. isolation. • decreased visual functioning and visual loss • impact of administering medication / procedures • impact of medical appointments **<u>Deafness/Hearing Loss/Conductive Hearing Loss/Sensioneural hearing loss</u>** • Isolation and withdrawal • Inattentiveness • Distraction and/or lack of concentration • Problems participating in social activities • Problems at work - may have to give up working/retire • Frustration or anger	7	This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is **explain**. **Annotation:** The number of ticks will not necessarily correspond to the marks awarded. **Level 3 checklist:** • at least 3 impacts • detailed explanation • clear knowledge & understanding of how malfunction can impact on lifestyle • appropriate terminology • well-developed line of reasoning • logically structured • QWC - high **Level 2 checklist:** • at least 2 impacts • sound explanation • some reference to how malfunction can impact on lifestyle • mostly relevant and accurate information • QWC - mid **Level 1 checklist:** • 1 impact • limited / basic explanation • basic information • may not be specifically linked to lifestyle impact	**Level 3 [6-7 marks]** Answers provide a detailed explanation of how the chosen disorder can impact on lifestyle. Answers will be coherent, logically structured, factually accurate and use appropriate terminology. There will be few, if any, errors of grammar, punctuation and spelling. **Level 2 [4-5 marks]** The answer provides a sound explanation of how the chosen disorder can impact on lifestyle. Answers will be factually accurate and use some appropriate terminology There may be some errors of grammar, punctuation and spelling. **Level 1 [1-3 marks]** Answer provides a limited or basic explanation of how the chosen disorder can impact on lifestyle. May be a description/identification only. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive. **0 marks –** response not worthy of credit. SEEN for a zero mark response

Question			Answer	Marks	Guidance	
					Content	**Levels of response**
					• limited structure, may be list like or muddled • QWC – low	

Question			Answer	Marks	Guidance
5	**(a)**		**One** mark for each correct point made, **three** required. This is a **comparison** so look for similarities **and** differences. **Points can be made from the following:** ***Similarities*** • Glucose is used • ATP is produced ***Differences*** • Anaerobic produces lactic acid • Anaerobic does not produce carbon dioxide or water • Anaerobic does not need oxygen • Anaerobic produces less ATP	**3** (3x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following: For **three marks** comparison must be balanced i.e. include **one** similarity and **one** difference. Doesn't need to specifically reference aerobic respiration for similarities/differences e.g. Anaerobic respiration uses glucoses, but not oxygen and produces the waste product of lactic acid (3 marks) **Maximum two marks for three differences.** Do not credit **LESS** oxygen

Question		Answer	Marks	Guidance
5	(b)	**One** mark for each correct answer. 1. *Can be triggered by cigarette smoke or dust* = **asthma** 2. *Caused by chemicals in cigarette smoke* = **emphysema** 3. *Caused by a defective gene* = **cystic fibrosis** 4. *Mucus is produced thicker than normal* = **cystic fibrosis**	**4** (4x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following:

Question		Answer/Indicative content	Marks	Guidance	
				Content	Levels of response
5	(c)*	**Health care support Micky needs to support him in managing his condition.** **Examples of treatment/care needs include:** • Individual care plan • Specific advice e.g. on puberty • Regular appointments with health care practitioners • Medications to reduce mucus production/thickness • Vaccinations to prevent infections • enzyme pills • bronchodilators • anti-biotics to help overcome infection more quickly • physiotherapy • dietary advice to reduce mucus production • exercise plan **Analysis:** • Needs will change with age and severity of condition • Treatment and prevention of lung problems • Susceptible to lung infections and e.g. 'flu' • Physiotherapy to clear lungs of mucus is time consuming and unpleasant • Secretions of digestive system are also affected by cystic fibrosis • Exercise supports health but must be monitored due to breathing issues.	6	This is a levels of response question – marks are awarded on the quality of the response given. The focus of the question is **analyse**. **Annotation:** The number of ticks will not necessarily correspond to the marks awarded. **Level 3 checklist:** • At least 2 treatments/methods of care • detailed analysis • clear knowledge & understanding cystic fibrosis • explicitly linked to care needs • appropriate terminology • well-developed line of reasoning • logically structured • QWC - high **Level 2 checklist:** • 1 treatment/methods of care • sound analysis • some reference to aspects of cystic fibrosis • some reference to the care needs, but may be implicit • mostly relevant and accurate information • QWC - mid **Level 1 checklist:** • limited / basic analysis • basic information • may not be specifically linked to care needs • limited structure, may be list like or muddled • QWC – low	**Level 3 [5-6 marks]** Answers provide a detailed analysis of how health care can support boy with cystic fibrosis. Answers will be coherent, factually accurate, logically structured and use appropriate terminology. There will be few, if any, errors of grammar, punctuation and spelling. **Level 2 [3-4 marks]** The answer provides a sound analysis of how health care can support boy with cystic fibrosis. Answers will be factually accurate and use some appropriate terminology. There may be some errors of grammar, punctuation and spelling. **Level 1 [1-2 marks]** Answer provides a limited or basic analysis of how health care can support boy with cystic fibrosis. May be a description/identification only. Answers may be list like, muddled, demonstrating little knowledge or understanding. Errors of grammar and spelling may be noticeable and intrusive. **0 marks –** response not worthy of credit. SEEN for a zero mark response

Question		Answer/Indicative content	Marks	Guidance	
				Content	Levels of response
		• May need mental health support Accept other appropriate examples. ***Analysis requires some links to the impacts of treatment/care e.g. physiotherapy removes mucus which reduces infection rates preventing damage to the lungs***			

Question			Answer	Marks	Guidance
5	**(d)**		**One** mark for each correct answer, **four** required. The answers **must** be given as ordered below to complete the sentences in the passage • air • ear drum • Eustachian tube • incus	**4** (4x1)	**Annotation:** The number of ticks must match the number of marks awarded. For **incorrect** answers use the **cross** or appropriate annotation from the following:

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