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
05831 - 05833 & 05871

Mark Scheme for January 2025

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

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.

MARKING PREPARATION

PREPARATION FOR MARKING

RM ASSESSOR

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *RM Assessor Online Training: OCR Essential Guide to Marking*.

2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are available in RM Assessor

3. Log-in to RM Assessor and mark the **required number** of practice responses ("scripts") and the **required number** of standardisation responses.

MARKING

1. Mark strictly to the mark scheme.

2. Marks awarded must relate directly to the marking criteria.

3. The schedule of dates is very important. It is essential that you meet the RM Assessor 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.

4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone, email or via the RM Assessor messaging system.

5. ## Crossed-Out Responses

Where a candidate has crossed out a response and provided a clear alternative then the crossed-out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed-out response where legible.

Rubric Error Responses – Optional Questions

Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM Assessor, which will select the highest mark from those awarded. *(The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)*

Multiple-Choice Question Responses

When a multiple-choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).
When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.

Contradictory Responses

When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

Short Answer Questions **(requiring only a list by way of a response, usually worth only one mark per response)**

Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. *(The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)*

Short Answer Questions **(requiring a more developed response, worth two or more marks**)

If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space).

Longer Answer Questions **(requiring a developed response)**

Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there, then add the annotation 'SEEN' to confirm that the work has been seen and mark any responses using the annotations in section 11.

7. There is a NR (**No Response**) option. Award NR (No Response):

   - if there is nothing written at all in the answer space
   - OR if there is a comment which does not in any way relate to the question (e.g., 'can't do', 'don't know')
   - OR if there is a mark (e.g., a dash, a question mark) which is not an attempt at the question.

   Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).

8. The RM Assessor **comments box** is used by your Team Leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**

9. A*ssistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.*

10. For answers marked by levels of response: Not applicable in F501

To determine the level – start at the highest level and work down until you reach the level that matches the answer

To determine the mark within the level, consider the following

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

Annotations available for marking of scripts

Annotation	Meaning
	Tick – correct answer
	Cross – incorrect answer
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	To acknowledge additional pages/ notes were read
	Not Relevant - 'noted but no credit given'
BP	Blank Page

DO NOT USE ANY OTHER ANNOTATION

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>(a)</td><td>(i)</td><td>
<table>
<tr><th>Function in digestion</th><th>Structure</th></tr>
<tr><td>Churns the food to help break it up and mix it with enzymes.</td><td>stomach</td></tr>
<tr><td>Covers the opening of the trachea when swallowing to prevent food entering the lungs.</td><td>epiglottis ✓</td></tr>
<tr><td>Opening for food to be chewed and mixed with saliva.</td><td>buccal cavity ✓</td></tr>
<tr><td>Produces hydrochloric acid to activate enzymes and kill bacteria.</td><td>stomach ✓</td></tr>
<tr><td>Squeezes swallowed food from the mouth into the digestive system.</td><td>oesophagus ✓</td></tr>
</table>
</td><td>4
(4x1)</td><td>ACCEPT phonetic spellings

If more than one structure provided for a function, do not credit the response.</td></tr>
<tr><td>1</td><td>(a)</td><td>(ii)</td><td>food is chewed into smaller pieces by the teeth ✓</td><td>1
(1x1)</td><td>No other responses are acceptable
If multiple responses ticked, do not credit the response.</td></tr>
<tr><td>1</td><td>(b)</td><td>(i)</td><td>pancreas ✓</td><td>1
(1x1)</td><td>No other responses are acceptable
If more than one response provided, do not credit the response.</td></tr>
<tr><td>1</td><td>(b)</td><td>(ii)</td><td>liver ✓</td><td>1
(1x1)</td><td>No other responses are acceptable
If more than one response provided, do not credit the response.</td></tr>
<tr><td>1</td><td>(b)</td><td>(iii)</td><td>pancreatic duct ✓</td><td>1
(1x1)</td><td>Accept pancreatic alone
If more than one response provided, do not credit the response.</td></tr>
</table>

Question			Answer	Marks	Guidance
1	(c)*		Please refer to the marking instructions on page 8 of this mark scheme for guidance on how to mark this question. **Level 3 (5-6 marks)** Detail of possible symptoms for gallstones **AND** Detailed description of possible causes for gallstones *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (3-4 marks)** Lists some symptoms for gallstones **AND** sound description of possible causes for gallstones *There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.* **Level 1 (1–2 marks)** Lists some symptoms **OR** Limited explanation of possible causes for gallstones. *There is an attempt at a logical structure with a line of reasoning. The information is in the most part relevant.* **0 marks** *No response or no response worthy of credit.*	**6**	**(not exhaustive):** **Symptoms** • abdominal pain (pain alone is TV, accept stomach/tummy or similar) • nausea/vomiting • diarrhoea • jaundice / yellowing skin • loss of appetite • excessive sweating • itchy skin • chills/shivering • fever/high temperature • rapid heart rate • pain after eating fatty food (pain after eating alone is TV) (accept any other correct response) **Possible causes** • high cholesterol levels (BOD diet high is cholesterol) • high levels of bilirubin • chemical imbalance of bile • tiny crystals develop • gall bladder doesn't empty properly • bile duct can be blocked Do not credit risk factors e.g. high fat diet

Question			Answer	Marks	Guidance
1	(d)	(i)	**Two** marks for a biological cause of cirrhosis explained *e.g.* alcohol-related disease / alcohol damage ✓ scar tissue forms / inflammation of liver ✓ **OR** *e.g.* genetic disorder e.g. haemochromatosis ✓ iron builds up in liver ✓ **OR** *e.g.* fatty liver disease / fat build-up ✓ scar tissue forms / inflammation of liver ✓ **OR** liver infection e.g. hepatitis ✓ scar tissue forms / inflammation of liver ✓	2 (1x2)	**2 marks:** A cause identified with a reason / explanation that shows understanding **1 mark:** A cause identified with little or no explanation Drinking too much TV BOD excessive alcohol (alcohol alone is TV) Family history TV BOD genetics/genes Infection alone is TV, but credit a named correct disease e.g. hepatitis Accept damaged liver cells as an alternative to scar tissue. Liver damage alone is TV

Question			Answer	Marks	Guidance
1	(d)	(ii)*	Please refer to the marking instructions on page 8 of this mark scheme for guidance on how to mark this question. **Level 3 (7-8 marks)** Detailed discussion that includes symptoms **and** impacts **and** care needs *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (4-6 marks)** Sound discussion that includes symptoms **and** impacts **or** care needs. **OR** Sound discussion that includes symptoms **or** impacts **and** care needs. *There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.* **Level 1 (1-3 marks)** Limited or basic discussion that includes symptoms **or** impacts **or** care needs. *There is an attempt at a logical structure with a line of reasoning. The information is in the most part relevant.* **0 marks** *No response or no response worthy of credit.*	**8**	**Examples of possible impacts on lifestyle (not exhaustive):** **e.g. symptoms** • tiredness/fatigue • jaundice • loss of appetite • weight loss • swelling of e.g. legs • joint pain • ascites (fluid build-up in the abdomen) **e.g. impacts on lifestyle** • loss of independence • frustration • wait for transplant or surgery • depression • insomnia • memory loss/confusion • need to change diet • inability to work • affects social activities • stop drinking/reduce alcohol consumption **L2/L3 needs to discuss how symptoms impact lifestyle** **e.g. care needs** • regular medical appoints/monitoring • information on how to slow the progress of the disease • support to minimise effects/managing symptoms • support to maintain independence/carer • advice on how to change lifestyle e.g. reduce alcohol • support with losing weight Accept any other reasonable point

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2</td><td>(a)</td><td></td><td>
<table>
<tr><th>Statement</th><th>True (T) or False (F)</th></tr>
<tr><td>The optic nerve transmits impulses from the eye to the brain.</td><td>True or T ✓</td></tr>
<tr><td>The pupil focusses light entering the eye.</td><td>False or F ✓</td></tr>
<tr><td>The suspensory ligaments attach the lens to ciliary muscles.</td><td>True or T ✓</td></tr>
<tr><td>The conjunctiva contains photoreceptors for detecting light.</td><td>False or F ✓</td></tr>
</table>
</td><td>4
(4x1)</td><td>If more than one response provided, do not credit the response.</td></tr>
<tr><td>2</td><td>(b)</td><td>(i)</td><td>cataracts ✓</td><td>1
(1x1)</td><td>No other responses are acceptable
If more than one response provided, do not credit the response.</td></tr>
<tr><td>2</td><td>(b)</td><td>(ii)</td><td>glaucoma ✓</td><td>1
(1x1)</td><td>No other responses are acceptable
If more than one response provided, do not credit the response.</td></tr>
</table>

Question			Answer	Marks	Guidance
2	(c)*		Please refer to the marking instructions on page 8 of this mark scheme for guidance on how to mark this question. **Level 3 (5-6 marks)** Detailed explanation of care needs for eye malfunction *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (3-4 marks)** Sound explanation of care needs for eye malfunction *There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.* **Level 1 (1–2 marks)** Limited explanation / simple list of care needs for eye malfunction *There is an attempt at a logical structure with a line of reasoning. The information is in the most part relevant.* **0 marks** *No response or no response worthy of credit.*	**6**	**(not exhaustive):** **Care needs with explanations** • help with adapting the home to cope with sight loss • improved lighting at work / home for sight impaired • adapted computer screens so can still work • audio books so can still 'read'/large text • support with transport as they may no longer be able to drive • learning braille to improve ways of communicating • removing trip hazards to avoid falls and injury • regular monitoring / hospital to ensure correct support is given / monitor the condition. • adaptations/modifications to the home e.g. talking appliances, continuous hand rails etc. • home help/support with daily tasks e.g. cooking • mobility support guide dogs/white cane (BOD walking stick) • counselling *The question does not require students to identify a named eye malfunction. Credit care needs of generic malfunctions* Accept any other reasonable point

<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>(i)</td><td>inner ear ✓</td><td>1
(1x1)</td><td>No other responses are acceptable
If more than one response ticked, do not credit the response.</td></tr>
<tr><td>2</td><td>(d)</td><td>(ii)</td><td>organ of Corti ✓</td><td>1
(1x1)</td><td>ALLOW Corti
Do not accept cochlea</td></tr>
<tr><td>2</td><td>(e)</td><td>(i)</td><td><table><tr><th>Structure</th><th>Letter on the diagram</th></tr><tr><td>Axon</td><td>C ✓</td></tr><tr><td>Cell body</td><td>A ✓</td></tr><tr><td>Dendrite</td><td>E ✓</td></tr><tr><td>Myelin sheath</td><td>D ✓</td></tr></table></td><td>4
(4x1)</td><td>If more than one letter provided for a structure do not credit the response.</td></tr>
<tr><td>2</td><td>(e)</td><td>(ii)</td><td>neurotransmitters ✓
receptors ✓</td><td>2
(2x1)</td><td>Answers must be in correct order

No other responses are acceptable
If more than one response provided in a space do not credit the response.</td></tr>
</table>

Question			Answer	Marks	Guidance
3	(a)		Any **three** points from below as part of an outline for **three** marks: • the process involves homeostasis ✓ • the process involves negative feedback ✓ • the process involves receptors, control centre and effectors ✓ • when body temperature gets too high a corrective mechanism lowers it back to normal ✓ • when body temperature is too low a corrective mechanism raises it back to normal ✓	3 (1x3)	**ALLOW** alternative wording throughout e.g. homeostasis is used Do not credit descriptions of the diagram that do not link to the process. For full marks must use the terms homeostasis AND negative feedback.
3	(b)	(i)	pancreas ✓	1 (1x1)	No other responses are acceptable If more than one response is provided, do not credit the response.
3	(b)	(ii)	increase ✓	1 (1x1)	BOD any responses relating to high blood glucose/blood glucose not falling.

Question			Answer	Marks	Guidance
3	(b)	(iii)	Any **three** symptoms for **three** marks from: • thirsty ✓ • tired/fatigue ✓ • frequent urination ✓ • unexplained weight loss ✓ • slow healing of wounds ✓ • blurred vision ✓ • high **blood** glucose (sugar) levels ✓ • dizziness/fainting ✓ • hunger ✓ • frequent infections e.g. thrush ✓	3 (3x1)	**ALLOW** other correct symptoms BOD weight loss BOD going to the toilet a lot Glucose / sugar levels alone is TV, must state blood glucose or blood sugar levels. If two or more responses given in one space, mark first response only However, if two responses given in the first space, but the second space left blank. Credit both responses.

Question			Answer	Marks	Guidance
3	(c)*		Please refer to the marking instructions on page 8 of this mark scheme for guidance on how to mark this question. Choose **THREE** treatments to evaluate **Level 3 (7-8 marks)** Detailed evaluation that includes detail of positives and negatives of **three** treatments. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (4-6 marks)** Sound evaluation that includes mention of positives **and** negatives of **three** treatments. **OR** Detailed evaluation that includes detail of positives **and** negatives of **two** treatments. Sub-max of 5 marks for a detailed evaluation of **one** treatment *There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.* **Level 1 (1-3 marks)** Limited or basic evaluation that includes mention of positives **or** negatives of at least **one** treatment. *There is an attempt at a logical structure with a line of reasoning. The information is in the most part relevant.* **0 marks** *No response or no response worthy of credit.*	**8**	**See table for examples of possible treatments with positives and negatives (not exhaustive).** If more than three treatments covered, only credit the first three treatments. For sound and detailed evaluations multiple positives and negatives are required. The specification and question do not require links to type 1 or type 2 in responses. Credit is awarded for evaluation, not identifying treatments. Don't tick treatments only positives and/or negatives. If more than three treatments covered, annotate seen against the additional treatments. Identifying treatments alone is not creditable. Accept any other reasonable point

Treatment	Positives	Negative
Insulin injections	• replaces insulin levels • reduces glucose levels • prevents hyperglycaemia • prevents coma • quick and easy / can be self administered	• need to check glucose levels • take before meals • painful • disruption to normal routines • risk of lowering glucose levels too much • embarrassing • fear of needles • need to be organised
Insulin pump	• replaces insulin levels • reduces glucose levels • prevents hyperglycaemia • prevents coma • more flexibility with routines	• risk of pump malfunction • risk of skin infections • impact on physical activity/sports • could on what you wear/embarrassing
Transplant (pancreatic cells)	• prevents big variations in glucose levels • prevents very low glucose levels • improved quality of life • long term benefits	• need to take anti-rejection medication • not a cure • may still need to take insulin • painful/recovery • waiting lists
Weight loss surgery	• prevent obesity • helps lose weight quickly • can put diabetes into remission • less will power required to lose weight	• post-surgery infections • malnutrition • digestive problems • bowel obstructions • painful/recovery • waiting lists
Named medication e.g. Incretin mimetics, metformin, ozempic (credit any correct diabetes medication) **OR a description of how the medication functions.**	• stimulates pancreas to produce insulin • lowers blood glucose levels • prevents big variations in glucose levels • may help weight loss • prevent obesity • increase insulin response	• named correct side effect e.g. pancreatitis, nausea, diarrhoea (side effects alone is TV) • may need to be taken long term • if injections may be painful • tablets need to remember to take them

Question			Answer	Marks	Guidance
3	(d)		bronchi ✓ alveoli ✓ diaphragm ✓ intercostal ✓	4 (4x1)	Answers must be in correct order Do not credit any other responses If more than one response provided within a space, do not credit the response.
3	(e)	(i)	**Two** marks for a biological cause of asthma explained *e.g.* inflammation/swelling of bronchi/bronchioles ✓ airways become narrower, reducing airflow ✓ **OR** *e.g.* increased mucus ✓ airways are blocked/obstructed, reducing airflow ✓ **OR** *e.g.* constriction of muscles of bronchi/bronchioles/smooth muscles ✓ airways become narrower, reducing airflow ✓	2 (1x2)	**2 marks:** A cause identified with a reason / explanation that shows understanding **1 mark:** A cause identified with little or no explanation Airways alone is TV for inflammation Must indicate that there is more mucus. Mucus alone is TV 1 mark for explanation without cause e.g. airways narrowed, reducing airflow to alveoli

Question			Answer	Marks	Guidance
3	(e)	(ii)*	Please refer to the marking instructions on page 8 of this mark scheme for guidance on how to mark this question. **Level 3 (5-6 marks)** Detailed description of impacts *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (3-4 marks)** Sound description of impacts *There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.* **Level 1 (1-2 marks)** Limited or basic description of impacts *There is an attempt at a logical structure with a line of reasoning. The information is in the most part relevant.* **0 marks** *No response or no response worthy of credit.*	6	**Examples of possible impacts on lifestyle (not exhaustive):** **e.g. impacts on lifestyle** • need to stop smoking • avoid pollution • avoid triggers e.g. dust mites, cold air, pollen • may need oxygen cylinders • depression • anxiety / stress • may need to change diet • may need to lose weight • inability to work / go to school • affects social activities e.g. sporting activities • worry about asthma attack • organisation e.g. carry inhaler • regular medical appointments • reduce alcohol consumption Accept any other reasonable point

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>4</td><td>(a)</td><td></td><td>
<table>
<tr><th>Statement</th><th>True (T) or False (F)</th></tr>
<tr><td>Arteries are blood vessels that carry blood away from the heart.</td><td>True or T ✓</td></tr>
<tr><td>Both arteries and veins have valves to prevent blood flowing backwards.</td><td>False or F ✓</td></tr>
<tr><td>Veins have thicker walls than arteries.</td><td>False or F ✓</td></tr>
</table>
</td><td>3
(3x1)</td><td>If more than one response provided for a statement, do not credit the response.</td></tr>
<tr><td>4</td><td>(b)</td><td></td><td>help form tissue fluid ✓</td><td>1
(1x1)</td><td>No other responses are acceptable
If more than one response ticked, do not credit the response.</td></tr>
<tr><td>4</td><td>(c)</td><td>(i)</td><td>walls / lining of coronary arteries ✓</td><td>1
(1x1)</td><td>BOD coronary arteries
Arteries along is TV</td></tr>
</table>

Question			Answer	Marks	Guidance
4	(c)	(ii)	Any **two** lifestyle factors from below for **two** marks: • smoking ✓ • obesity/overweight ✓ • lack of exercise/sedentary lifestyles ✓ • diabetes ✓ • high blood pressure ✓ • excessive alcohol consumption ✓ • use of recreational drugs ✓ • stress ✓ • too much salt in the diet ✓ • diet high in sugar ✓ • diet low in fibre/fruit and vegetables/vitamins and minerals ✓	2 (2x1)	**IGNORE** high cholesterol as this is given in the question **ALLOW** other correct lifestyle factors Drinking too much is TV Alcohol alone is TV must link to excessive / prolonged. Do not credit high fat diet
4	(c)	(iii)	Any **one** symptom from below for **one** mark: • breathlessness ✓ • nausea ✓ • dizziness / fainting ✓ • angina ✓ • chest pain/pain in neck, jaw, arms ✓ • heart attack ✓ • weakness in arms and legs ✓	1 (1x1)	**not exhaustive:** If more than one response provided, credit the first response only.

Question			Answer	Marks	Guidance
4	(d)*		Please refer to the marking instructions on page 8 of this mark scheme for guidance on how to mark this question. **Level 3 (5-6 marks)** Detailed description of ECG trace that links heart activity to detail in PQRST waves. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (3-4 marks)** Sound description of ECG trace that attempts to describe what is happening. Some links to ECG trace and waves. *There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.* **Level 1 (1-2 marks)** Limited or basic description of ECG trace. No links to ECG trace. *There is an attempt at a logical structure with a line of reasoning. The information is in the most part relevant.* **0 marks** *No response or no response worthy of credit.*	**6**	**Indicative points (not exhaustive):** **What ECG trace shows:** • shows electrical activity in the heart • waves on ECG shows different stages of cardiac cycle • shows atrial contraction or systole • shows ventricular contraction or systole • shows relaxation / diastole **LINKS**: • P wave shows atrial contraction or systole • QRS shows ventricular contraction or systole • T shows repolarisation / relaxation / diastole Accept any other reasonable point

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>5</td><td>(a)</td><td>(i)</td><td>
<table>
<tr><th>Joint</th><th>Letter on the diagram</th></tr>
<tr><td>Hinge</td><td>L ✓</td></tr>
<tr><td>Pivot</td><td>J ✓</td></tr>
<tr><td>Sliding</td><td>M or K ✓</td></tr>
</table>
</td><td>3
(3x1)</td><td>If more than one letter provided for a joint, do not credit the response.</td></tr>
<tr><td>5</td><td>(a)</td><td>(ii)</td><td>Any two points from below as part of an explanation for two marks:

• reduces friction ✓
• acts as shock absorber ✓
• stops bone rubbing / allows bones to move freely ✓
• reduces wear and tear of the joint ✓</td><td>2
(1x2)</td><td></td></tr>
</table>

Question			Answer	Marks	Guidance
5	(b)*		Please refer to the marking instructions on page 8 of this mark scheme for guidance on how to mark this question. **Level 3 (5-6 marks)** Detailed discussion of risk factors **and** biological causes for osteoporosis *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 (3-4 marks)** Sound discussion of risk factors **or** biological causes for osteoporosis *There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.* **Level 1 (1-2 marks)** Limited or basic discussion-list. *There is an attempt at a logical structure with a line of reasoning. The information is in the most part relevant.* **0 marks** *No response or no response worthy of credit.*	6	**Examples of possible risk factors (not exhaustive):** **e.g. risk factors** • family history / genetics • menopause • eating disorders e.g. anorexia • certain medications e.g. steroids, chemotherapy • over-exercising • inactivity • ethnicity • female • diet low in vitamins and minerals e.g. lack of calcium. • certain diseases e.g. Crohn's disease • overweight / obesity • excessive alcohol consumption • smoking **e.g. biological causes** • loss of bone density / deterioration of bone tissue • loss of proteins in bone • reduction in osteoblast activity • decline of oestrogen in women • decline of testosterone in men Accept any other reasonable point

Question			Answer	Marks	Guidance
5	(c)	(i)	Any **two** paired points from below as part of a description for **two** marks: limited activities e.g. sporting activities ✓ due to swelling **or** pain in joints ✓ **OR** reduced mobility / difficulty walking ✓ due to swelling **or** pain in joints ✓ **OR** decreased independence / difficulty preparing meals / work issues ✓ due to swelling **or** pain in joints ✓ **OR** impact on free time ✓ due to hospital appointments / medication routines ✓ **OR** stress / anxiety / depression ✓ due to inability to carry out activities / loss of independence / sleep issues ✓	2 (1x2)	**Allow other impacts described** **2 marks:** An impact identified with a description that shows understanding **1 mark:** An impact identified Is pain alone TV
5	(c)	(ii)	Any **one** from below for **one** mark: • anti-inflammatories / painkillers / steroids ✓ • joint replacement / arthroscopy / joint fusion ✓ • physiotherapy / exercise ✓ • alternative therapies e.g. acupuncture ✓	1 (1x1)	Allow any named examples

Need to get in touch?

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