



Sample question paper and mark scheme

DRAFT

LEVEL 3 CAMBRIDGE ADVANCED NATIONAL (AAQ) IN

HEALTH AND SOCIAL CARE

Extended Certificate H125

For first teaching in 2025

F091: Anatomy and physiology for health and social care

Introduction

This is Sample Assessment Material (SAM). It is an example exam paper that we publish alongside a new specification to help illustrate the intended style and structure of our question papers.

During the lifetime of the qualification, updates to the question paper template may happen. We always recommend you look at the most recent set of past papers where available.

We also produce two further specific resources to support you with using this SAM:

- An assessment story. We explain the research we have undertaken during the development of the qualification and how consultation with teachers, students and schools have helped shape our assessment approach.
- Annotated SAMs. We take you through the key points of the assessment and highlight the different types
 of questions your students will experience in the exam.

Tell us what you think

Your feedback plays an important role in how we develop, market, support and resource qualifications now and into the future. Here at OCR, we want teachers and students to enjoy and get the best out of our qualifications and resources, but to do that we need honest opinions to tell us whether we're on the right track or not. That's where you come in.

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Designed and tested with teachers and students



Helping young people develop an ethical view of the world



Equality, diversity, inclusion and belonging (EDIB) are part of everything we do

Summary of updates

Date	Version	Page number	Summary of change
July 2023	1 DRAFT	All	Creation of document

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We have a range of support services to help you at every stage, from preparation to delivery.

Our teacher support is designed to make teaching our qualifications straightforward, whether you are an experienced teacher, new to teaching, new to OCR, or not a subject specialist of the qualification you are teaching.

We offer free access to services such as <u>Access to Scripts</u>, <u>ExamBuilder</u> and <u>ActiveResults</u>, and you'll find comprehensive teaching resources and a range of professional development courses on our teacher website, <u>Teach Cambridge</u>.

Our OCR subject advisors provide support and information to centres, including:

- Specification and non-exam assessment advice
- Updates on resource developments and training opportunities
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Contact details are available on the **final page** of the SAM.

Work with us

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Our equality, diversity, inclusion and belonging principles are that we:

- · are respectful and considerate
- celebrate differences and promote positive attitudes to belonging
- include perspectives that reflect the diverse cultural and lifestyle backgrounds of our society
- challenge prejudicial views and unconscious biases
- promote a safe and supportive approach to learning
- are accessible and fair, creating positive experiences for all
- provide opportunities for everyone to perform at their best
- are contemporary, relevant and equip everyone to live and thrive in a global, diverse world
- create a shared sense of identity in a modern mixed society with one humanity.

To learn more, including our work on accessibility in our assessment materials, visit our <u>People and planet page</u>.

If you prefer to use a printed copy of the SAMs, consider printing a selection of pages. The following are the pages which you might find useful to print:

Question paper pages 5-20

Mark scheme pages 21-32



Level 3 Cambridge Advanced National (AAQ) in Health and Social Care (Extended Certificate)

H125 F091: Anatomy and physiology for health and social care

Sample Assessment Material (SAM)

Time allowed: 1 hour 30 minutes

No extra material	s are needed.
Please write clea	arly in black ink. Do not write in the barcodes.
Centre number	Candidate number
First name(s)	
Last name	
Date of birth	D D M M Y Y Y

INSTRUCTIONS

- Use black ink.
- Write your answer to each question in the space provided. You can use extra paper if you need to, but you must clearly show your candidate number, the centre number and the question numbers.
- In the live exam there might be lined pages at the end of the question paper for you to use if you need extra space. Remember, you must clearly show the question numbers.
- Answer **all** the questions.

INFORMATION

- The total mark for this paper is 60.
- The marks for each question are shown in brackets [].
- This document consists of 16 pages.

ADVICE

Read each question carefully before you start your answer.

Section A

1	State one function of white blood cells.	
		. [1]
2	What type of test is used to monitor the cardiac cycle?	
		. [1]
3	Where in the respiratory system does gaseous exchange happen?	
	Tick (✓) one box.	
	Alveoli	
	Bronchi	
	Bronchioles	
	Pleural fluid	
		[1]
4	State one sign or symptom of asthma.	
		. [1]

5	What are carbohydrates broken down ii	nto during chemical digestion?	
	Tick (✓) one box.		
	Amino acids		
	Fatty acids		
	Glucose		
	Glycerol		[41]
			[1]
6	State one bone in the appendicular ske	eleton.	
			[1]
7	Which hormone is released by the pane	creas to lower blood glucose levels?	
			[1]
8	State one factor that makes it more like	ely someone will have an ischaemic stroke.	
			[1]
9	Where in the female reproductive syste	m does a foetus gestate?	
			[1]

10 Carpal tunnel syndrome can be diagnosed using physical examination or an ultrasound scan.

State **one** other way to diagnose carpal tunnel syndrome.

.....[1]



Section B

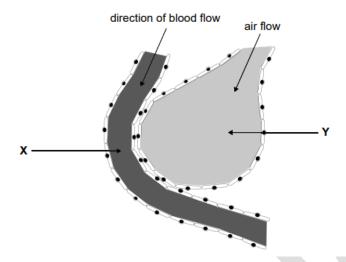
(a) Complete the sentences below to describe what happens in inspiration when breathing.Use words from the list.

You can use each word once, more than once or not at all.

uowiiwaius	enters	external	internal	
leaves	left	remains in	upwards	
In inspiration, the		intercostal mu	scles contract. This pulls t	he
ribs	At th	ne same time the diaphra	agm contracts and moves	i
This increases the	e volume in the	e chest cavity, which ded	creases the pressure. Air	then
	the lung	s to equalise the pressu	re.	

[4]

(b) The diagram shows a capillary and an alveolus.



Explain how gases are exchanged between X and Y as the blood flows in the capillary.

(c) Complete the sentence below about cellular respiration.

..... + + carbon dioxide + water + energy released as ATP molecules

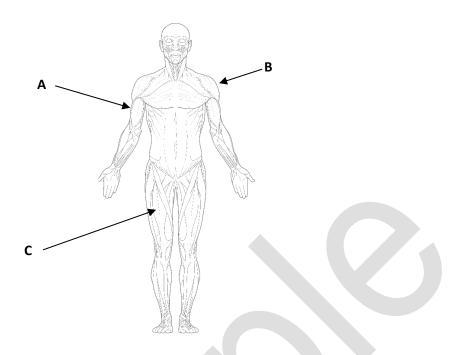
[2]

[2]

	and a fever.
(i)	Which respiratory condition is most likely to be affecting Nina's baby?
	Respiratory condition[1]
(ii)	Explain why you think this condition is most likely.

(d) Nina has brought her 6-month-old baby to hospital with a cough, breathing difficulties

12 (a) Identify the muscles in the diagram below



Letter	Muscle
A	
В	
С	

[3]

(b) Describe synovial fluid and its role in the movement of a synovial joint.

[3]

(c) Analyse how osteoarthritis affects the musculoskeletal system.		
	[6]	

(d) Eve is 93 years old. She has recently been diagnosed with osteoarthritis in her hip joint. The doctor has recommended she is treated with pain medication and uses joint support devices.

Explain why the doctor would recommend pain medication and joint support devices for Eve, rather than a hip replacement operation.			

Version 1.0 (September 2023)

[3]

13	(a)	Outline the luteal phase of the menstrual cycle.

(b) Sundip is 19 years old and has been diagnosed with endometriosis.

She gets severe period pains and very heavy periods which mean she finds it difficult to go to work or out with her friends when she is having her period.

The doctor has already prescribed pain relief and hormonal contraceptives, but these have not worked.

The doctor has now suggested **two** possible treatments for Sundip:

- laparoscopic removal of the endometriosis tissue
- hysterectomy.

Discuss which treatment would be best for Sundip.

In your answer you must write about:

- · any benefits of each treatment for Sundip
- any limitations of each treatment for Sundip

which treatment you would recommend for Sundip and your reasons.	[9]

14 Jack is a 65-year-old male. He is a heavy smoker and is overweight.

He is going on holiday in six months' time. He will travel there on an aeroplane and the flight is 8 hours long.

Jack is worried as he has previously had deep vein thrombosis (DVT) and knows that taking a long flight will increase his risk of developing it again.

(a) State three symptoms of deep vein thrombosis.

1	
2	
3	

(b)	Describe how a deep vein thrombosis can lead to a pulmonary embolism.		
	[2]		

(c)	Explain how Jack could reduce the risk of developing deep vein thrombosis.
	Total Control of the
	[6]

END OF QUESTION PAPER

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This is sample assessment material for our specification. It is to help show how the live assessment materials will look. During the lifetime of the qualification you might see small adjustments to the assessment materials. This is part of continuous improvement, designed to help you and your students. We recommend you look at the most recent set of past papers where available.



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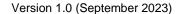
Level 3 Cambridge Advanced National (AAQ) in Health and Social Care (Extended Certificate)

F091: Anatomy and Physiology for Health and Social Care

Sample assessment material (sam)

Mark scheme

This document has 11 pages.



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.

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Marking instructions

Crossed-out answers

If a student has crossed out an answer and written a clear alternative, do **not** mark the crossed-out answer.

If a student has crossed out an answer and **not** written a clear alternative, give the student the benefit of the doubt and mark the crossed-out answer if it's readable.

Multiple choice question answers

When a multiple choice question has only one correct answer and a student has written two or more answers (even if one of these answers is correct), you should **not** award a mark.

When a student writes more than one answer

1. Questions that ask for a set number (including 1) of short answers or points

If a question asks for a set number of short answers or points (e.g. **two** reasons for something), mark only the **first set number** of answers/points.

First mark the answers/points against any printed numbers on the answer lines, marking the **first** answer/point written against each printed number. **Then**, if students have not followed the printed numbers, mark the answers/points from left to right on each line and **then** line by line until the set number of answers/points have been marked. Do **not** mark the remaining answers/points.

2. Questions that ask for a single developed answer

If a student has written two or more answers to a question that only requires a single (developed) answer, and has **not** crossed out unintended answers, mark only the first answer.

3. Contradictory answers in points-based questions

When a student has written contradictory answers, do **not** award any marks, even if one of the answers is correct.

Levels of Response marking

- 1. To determine the level start at the highest level and work down until you reach the level that best describes the answer
- 2. To determine the mark within the level, consider the following:

Quality of the answer	Award mark
Consistently meets the criteria for this level	At the top of the level (6 and 9 mark questions)
Meets the criteria but with some inconsistency	At the middle of the level (9 mark questions)
On the borderline of this level and the one below	At the bottom of the level (6 and 9 mark questions)

Annotations

Annotation	Meaning
✓	Correct response
×	Incorrect response
+	Positive
_	Negative
ш	Level 1
L2	Level 2
L3	Level 3
^	Omission mark
BOD	Benefit of doubt given (this annotation counts as a mark so do not tick as well)
CON	Contradiction
REP	Repeat
TV	Too vague
SEEN	Noted but no credit given

Mark scheme

1	
Max mark	1
Answer	fight infections.destruction of cancer cells.
Guidance	No other answers are acceptable.

2		
Max mark	1	
Answer	Electrocardiogram (ECG)	
Guidance	No other answers are acceptable.	

3	
Max mark	1
Answer	Alveoli
Guidance	No other answers are acceptable.

4		
Max mark	1	
Answer	 Wheezing Coughing Tight Chest Breathlessness 	
Guidance	No other answers are acceptable.	

5	
Max mark	1
Answer	Glucose
Guidance	No other answers are acceptable.

6	
Max mark	1
Answer	 Scapula Clavicle Humerus Radius Ulna Pelvis Femur Patella Tibia Fibula
Guidance	Accept any correct answer.

7		
Max mark	1	
Answer	Insulin	
Guidance	No other answers are acceptable.	

8	
Max mark	1
Answer	 Obesity High fat and/or salt diet Smoking Diabetes Stress Hypertension
Guidance	No other answers are acceptable.

9	
Max mark	1
Answer	Uterus
Guidance	No other answers are acceptable.

10	
Max mark	1
Answer	Electromyography/nerve test
Guidance	No other answers are acceptable.

11 (a)	
Max mark	4
Answer	 External Upwards Downwards Enters
Guidance	No other answers are acceptable. If more than one answer is given in a space, no mark should be awarded.

11 (b)	
Max mark	3
Answer	 Oxygen moves from area of high concentration (Y/alveolus) to area of low concentration (X/capillaries). Carbon dioxide moves from area of high concentration (X/capillaries) to area of low concentration (Y/alveolus). Movement is through diffusion. Movement is because of a diffusion gradient. Oxygen binds to haemoglobin in the capillaries to form oxyhaemoglobin.
Guidance	Credit any other appropriate answer.

11 (c)	
Max mark	2
Answer	One mark for oxygen. One mark for glucose.
Guidance	No other answers are acceptable.

11 (d) (i)	
Max mark	1
Answer	One mark for bacterial pneumonia.
Guidance	BOD Pneumonia No other answers are acceptable.

11 (d) (ii)	
Max mark	2
Answer	 Up to two marks for explanation e.g.: The baby is showing (three) symptoms of bacterial pneumonia. The condition is more common in babies. Could not be asthma, as this would not have the symptom of fever.
Guidance	Do not credit explanation for wrong condition or if no condition given. No other answers are acceptable.

12 (a)	
Max mark	3
Answer	 A=Biceps. B=Deltoid. C=Quadriceps.
Guidance	No other answers are acceptable.

12 (b)	
Max mark	3
Answer	 It is a fluid found in the joint cavity. It is made by the synovial membrane. It lubricates the joint/reduces friction, so it moves smoothly. Acts as a shock absorber. Nourishes the tissue surrounding it.
Guidance	One mark for each correct point made.

12 (c)	
Max mark	6
Levels of Response	Level 3 (high) 5-6 marks A thorough analysis, which includes: identification of a range of effects detailed knowledge and understanding in the context of the question clear explanation consistent use of appropriate subject terminology.
	Level 2 (mid) 3-4 marks An adequate analysis which includes: identification of some effects sound knowledge and understanding in the context of the question adequate explanation some use of appropriate subject terminology. Level 1 (low) 1-2 marks A basic analysis which includes: identification of at least one effect limited knowledge and understanding in the context of the question basic explanation use of appropriate subject terminology is limited. O marks Answer is not worthy of credit.
Indicative content	Answers can include some of the following: The condition develops due to loss of joint space resulting in bones touching. This causes cartilage to be broken down/worn away over a period of time which results in friction between bonescausing pain and inflammation of the affected jointswhich can reduce the range of motion. In addition, bone spurs can form on the outer area of the jointwhich can reduce the range of motion.

12 (d)	
Max mark	3
Answer	 Pain medication and joint support devices are non-surgical treatments and so are low risk for Eve. Hip replacement is major surgery and is high risk (especially because of Eve's age). Only a recent diagnosis so would try non-surgical treatments first. Only recently diagnosed so may not yet know the severity, so pain medication and joint support might be sufficient to treat the condition.
Guidance	One mark for each correct point made.

13 (a)	
Max mark	3
Answer	 It is the phase between ovulation and start of next period. It begins around day 15 of 28 day menstrual cycle. Lining of uterus thickens. Uterus is prepared for pregnancy/(ovum) implantation. If no pregnancy the uterus begins to shed.
Guidance	One mark for each correct point made.

40.00	
13 (b)	
Max mark	9
Levels of	Level 3 (high) 7-9 marks
Response	A thorough discussion which shows detailed evaluation, which includes:
	 a range of benefits and limitations of both treatments
	a detailed analysis in the context of the question
	a clear conclusion with detailed reasons
	consistent use of appropriate subject terminology.
	Level 2 (mid) 4-6 marks
	An adequate discussion which shows sound evaluation, which includes:
	some benefits and limitations of both treatments
	some analysis in the context of the question
	an adequate conclusion with relevant reasons
	some use of appropriate subject terminology.
	Level 1 (low) 1-3 marks
	A basic discussion which shows limited evaluation, which includes:
	a few benefits and limitations of the treatments
	a limited analysis in the context of the question
	a brief conclusion with limited reasons
	use of appropriate subject terminology is limited.
	0 marks
	Answer is not worthy of credit.
Indicative content	Answers can include some of the following:
	Laparoscopic removal of endometriosis tissue
	Keyhole surgery (used to remove endometriosis tissue) Benefits

13 (b)	
	 For most people (approximately 70%) it cures the condition Relieves symptoms/pain. Less invasive Quicker recovery Minimal scarring Can improve fertility. Limitations May require multiple operations. Risk of infection Problems can reoccur.
	 Hysterectomy Open surgery Removal of the uterus and fallopian tubes Normally only considered if other less invasive treatment have been tried and been unsuccessful Used where people have severe pain symptoms. Benefits Relieves symptoms/pain More successful than laparoscopic removal of endometriosis tissue in reducing pain. Limitations More invasive Longer recovery Larger scars Risk of infection Inability to be pregnant Not always successful at relieving symptoms
	 May require HRT treatment after surgery. Recommended treatment Candidates may conclude that laparoscopic removal is the most appropriate treatment because: Only 19 may well still want to have children Hysterectomy only used after other treatments have been unsuccessful.

14 (a)	
Max mark	3
Answer	 Pain (at the site of the DVT). Swelling (at the site of the DVT). Redness (at the site of the DVT).
Guidance	No other answers are acceptable.

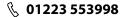
14 (b)	
Max mark	2
Answer	 Pieces of clot break off from the DVT (travels to a blood vessel in the lungs) Blocking the blood vessel in the lungs/reducing blood flow to the lungs.
Guidance	One mark for each correct point made.

14 (c)	
Max mark	6
Levels of Response	Level 3 (high) 5-6 marks A clear and thorough explanation, which includes: identification of a range of relevant points that are explained detailed knowledge and understanding in the context of the question consistent use of appropriate subject terminology. Level 2 (mid) 3-4 marks
	An adequate explanation which includes: identification of points that are mostly relevant and sometimes explained sound knowledge and understanding in the context of the question some use of appropriate subject terminology.
	 Level 1 (low) 1-2 marks A basic explanation which includes: identification of at least one point with basic explanation attempted limited knowledge and understanding in the context of the question use of appropriate subject terminology is limited.
	0 marks Answer is not worthy of credit.
Indicative content	The answer must be linked to the scenario to reach Level 3. Answers can include some of the following: Use of compression stockings on the flight
	 which improves blood flow and prevent swelling of legs. Regular movement whilst on the flight which increases the flow of blood through the legs. Jack staying hydrated whilst on the flight which means blood will be more viscous and thus less likely to clot. Jack quitting smoking a significant period of time before the flight as chemicals in cigarettes can cause platelets to clump together and form a clot, therefore quitting smoking reduces this risk. Jack could lose weight prior to going on holiday excess fat compress veins making and thickens blood making blood clots more likely. Weight loss reduces these risks.



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