

**CAMBRIDGE TECHNICALS LEVEL 3 (2016)**

**Examiners' report**

# **HEALTH AND SOCIAL CARE**

**05830–05833, 05871**

**Unit 4 January 2021 series**

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## Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

A full copy of the question paper and the mark scheme can be downloaded from OCR.

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## Unit 4 series overview

This examination series has seen a marked improvement in the consistency of the candidates. The overwhelming majority of candidates were able access all questions, and the level of responses was good. As in previous examinations, a number of candidates utilised the additional pages to continue their responses. But a number of candidates continue to not indicate they have continued on to extra paper and in some cases do not clearly indicate which question their additional response relates too. Candidates appear to have enough time to complete the assessment.

The point based questions proved to be very accessible by most candidates, with most gaining a high percentage of correct marks.

Most candidates produced good answers to the level of response questions. The percentage of candidates who achieved Level 2 or 3 responses was higher than in previous examinations. Many candidates clearly understand the requirements of the different command verbs. This was illustrated in Question 4c(ii), where most candidates attempted to evaluate lifestyle changes and care. However, some candidates are attempting to evaluate many level of response questions, regardless of the command verb.

Some candidates continue to struggle with the explain questions. Their answers are often list like, with limited explanation of the factor in the question.

### Question 1 (a) (i)

1 Components of the endocrine system have a role in control and communication in the body.

(a) Answer the following questions about the endocrine system.

glucagon	insulin	adrenal	thyroid
pituitary	adrenalin	ovaries	testes

Use words from the list.

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

(i) Which **gland** is located just above the kidney?

.....[1]

### Question 1 (a) (ii)

(ii) Which **hormone** lowers the concentration of glucose in the blood?

.....[1]

### Question 1 (a) (iii)

(iii) Which **gland** has a role in regulating other endocrine glands?

.....[1]

### Question 1 (a) (iv)

(iv) Which **gland** is located at the base of the brain?

.....[1]

Questions 1a(i) and 1a(ii) were both answered correctly by nearly all candidates. The correct responses were not as high for 1a(iii) and 1a(iv) but were still well answered.

### Question 1 (b) (i)

(b) The pancreas has a function within both the endocrine and digestive systems of the body.

(i) Identify **two** endocrine functions of the pancreas.

1 .....

.....

2 .....

.....

[2]

This question was well answered, with a focus on insulin and its impact on blood glucose being the most common aspect of response. Those who did not answer this question well often just stated hormones with no clear indication of the specific ones or their role.

### Question 1 (b) (ii)

(ii) Identify **two** digestive functions of the pancreas.

1 .....

.....

2 .....

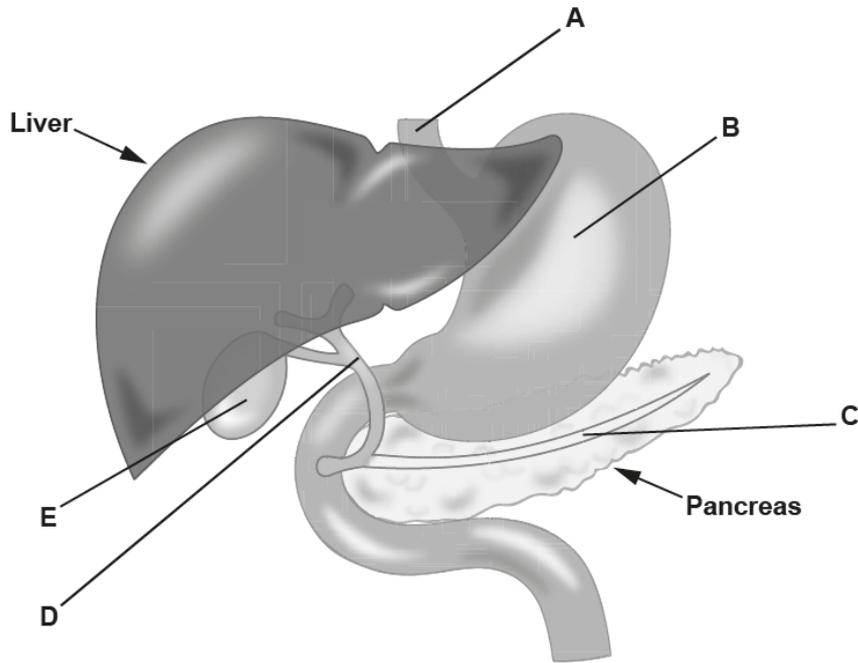
.....

[2]

This question was not as well answered as the previous one. A few responses also gave endocrine functions for this question. Many correct responses focused on the enzyme function and neutralising of chyme.

### Question 1 (c)

(c) The diagram shows part of the digestive system including the pancreas and the liver.



Complete the table using letters from the diagram.

Structure	Letter
Pancreatic duct	.....
Stomach	.....
Bile duct	.....
Gall bladder	.....
Oesophagus	.....

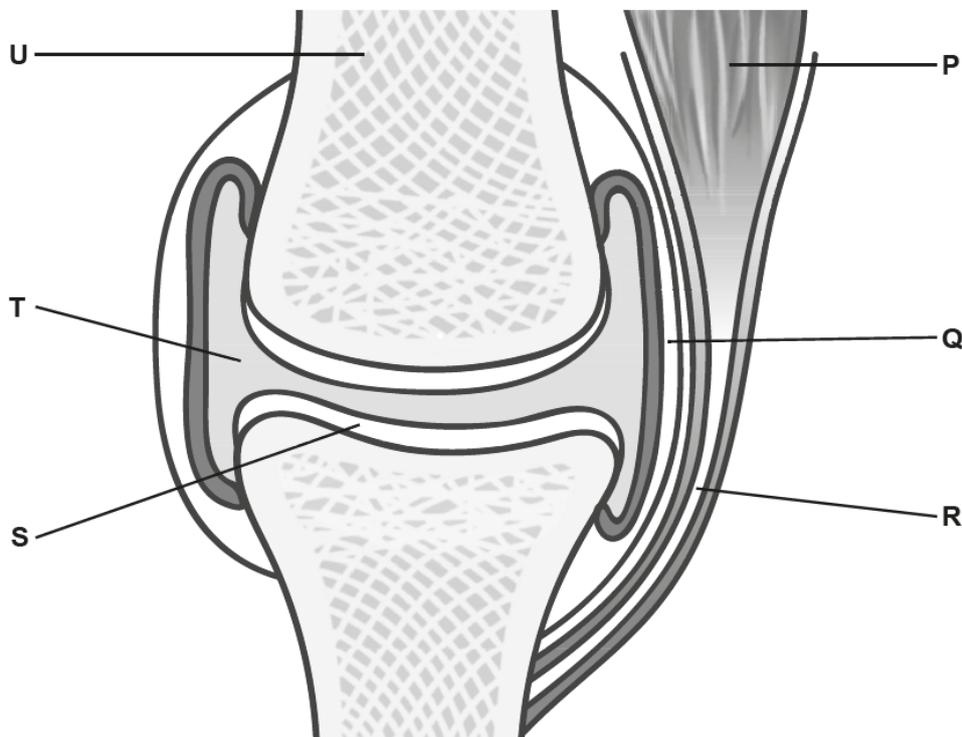
[5]

This was a well answered question, with a high percentage of candidates achieving full marks. The most common incorrect response was the gall bladder.



### Question 2 (a)

2 The diagram shows a synovial joint.



(a) Complete the table using letters from the diagram.

The last one has been done for you.

Structure	Letter
Synovial capsule	.....
Cartilage	.....
Synovial fluid	.....
Tendon	.....
Bone	<b>U</b>

[4]

Candidates are becoming very skilled in these labelling questions. This question was very well answered. The most common error was labelling tendon as P.

### Question 2 (b)

(b) The joint in the diagram above is a hinge joint.

Name **two** other types of joint.

1 .....

2 ..... [2]

This question was well answered with most candidates gaining 2 marks. Some students did respond with hinge, which was not given as it was in the question. While other identified body parts e.g., elbow or components of joints e.g., synovial.

### Question 2 (c) (i)

(c) (i) Identify **one** malfunction of the musculoskeletal system and **one** symptom associated with the malfunction you have identified.

Malfunction: ..... [1]

Symptom: ..... [1]

The three potential options (osteoarthritis, rheumatoid arthritis, and osteoporosis) were all commonly selected. Some candidates did respond with arthritis, which was accepted but candidates should be more specific in future. A minority responded with diseases that either were not in the specification or affected a different body system e.g. multiple sclerosis. In terms of symptoms most candidates gave correct responses for osteoarthritis and rheumatoid arthritis, with only a minority providing incorrect answers. This was often due to vague responses e.g. pain or swelling. For osteoporosis less candidates gave correct answers, this was due to "broken bones" being a common response, which again is too vague.

### Question 2 (c) (ii)

(ii)\* Explain the impact of the malfunction identified in (c)(i) on the daily life of an individual with this condition.

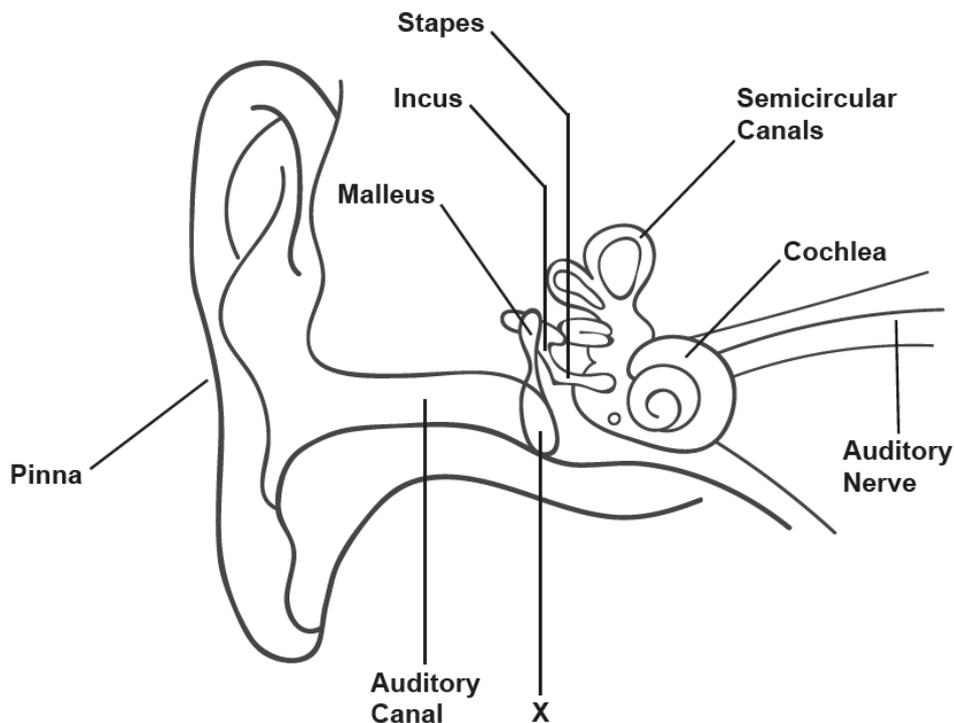
.....  
.....  
.....  
.....  
.....  
..... [6]

For osteoarthritis and rheumatoid arthritis this question was very well answered, with a high proportion of Level 2 and Level 3 responses. However, candidates who selected osteoporosis generally did not answer as well. Many discussed the impact of pain but did not make the link that this would only be an issue if they had broken a bone.



### Question 3 (a) (i)

3 (a) The diagram shows the structure of the ear.



Use the diagram to answer the following questions.

(i) Identify **two** structures that are found in the **inner** ear.

1 .....

2 .....

[2]

### Question 3 (a) (ii)

(ii) Which structure contains ampullae?

.....[1]

### Question 3 (a) (iii)

(iii) Which structure is lined with tiny hairs and helps us to maintain balance?

.....[1]





## Question 4 (a)

4 Adenosine triphosphate (ATP) is produced by cellular respiration.

(a) Complete the table below by deciding whether each statement about cellular respiration is True (T) or False (F).

Statements	True (T) or False (F)
Aerobic respiration produces more ATP than anaerobic respiration.	
Aerobic respiration takes place in mitochondria.	
Anaerobic respiration needs glucose and oxygen.	
Lactic acid is produced during aerobic respiration.	

[4]

A reasonable number of candidates achieved 4 marks for this question. The most common error related to the statement "aerobic respiration takes place in the mitochondria".

## Question 4 (b)

(b) Oxygen must pass through the alveoli walls to get into the blood.

Which process allows oxygen to pass through the alveoli walls?

Tick (✓) **one** box.

Processes	Tick (✓) one only
Assimilation	
Absorption	
Diffusion	
Inspiration	

[1]

This was a well answered question, with most candidates correctly ticking diffusion. The most common incorrect response was absorption.

### Question 4 (c) (i)

(c) Asthma and emphysema are both respiratory malfunctions.

(i) Identify **one** possible cause for each of these malfunctions.

Asthma: .....

.....

Emphysema: .....

.....

[2]

Again, well answered, although candidates need to be clear when using terms like genetics for asthma.

	<b>Misconception</b>	While you can be genetically predisposed to asthma it is not a genetic disease, as you are not born with it.
---	----------------------	--

### Question 4 (c) (ii)\*

(ii)\* Evaluate the lifestyle changes and care needed to help an individual manage emphysema.

.....

.....

.....

.....

.....

.....[8]

Achieving Level 3 on this question was challenging, as you needed to evaluate multiple lifestyle changes and care needs. However, it was pleasing to see some candidates achieve this. Overall, the quality of responses on this evaluate question was improved on previous exam series. The most common aspects for evaluation were stopping smoking and using an oxygen tank.

### Question 5 (a)

5 The kidney is a component of the regulatory system.

(a) Complete the table using structures from the list.

calyx                      ureter                      cortex                      medulla                      urethra

Statements	Structure
The outer layer of the kidney.	
A tube that carries urine from the kidney to the bladder.	
A chamber that collects urine.	
A tube that passes urine out of the body.	

[4]

This was a challenging question for a number of candidates. The most frequent mistake was to mix up cortex and calyx.

### Question 5 (b)

(b) The kidney contains thousands of nephrons.

Identify and describe **two** functions of these nephrons.

1 .....

.....

.....

.....

.....

2 .....

.....

.....

.....

.....

[4]

This was the least well answered question on the paper, and the one that was most commonly left blank. Some candidates incorrectly discuss the kidney's role in detoxification. While others discussed urine production with no clear links to osmoregulation.

### Question 5 (c)

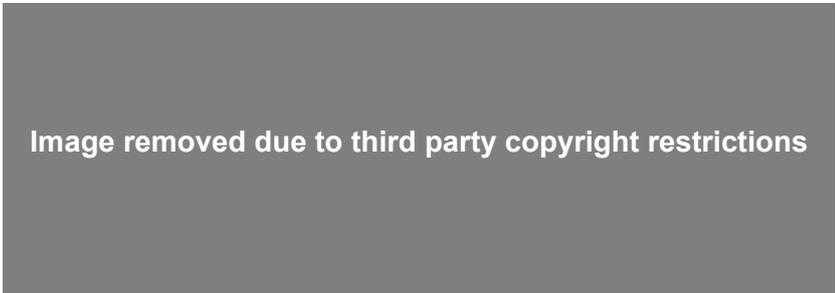
(c) Name the blood vessel that carries blood from the body into the kidneys.

.....[1]

Very few correct responses for this question, with the incorrect renal vein a more common response than renal artery.

### Question 5 (d) (i)\*

(d) The diagram shows the structure of an artery.



(i)\* Compare the structure of the artery with the structure of a vein and a capillary, considering their functions in your answer.

.....  
.....  
.....  
.....  
.....[6]

Most candidates achieving a Level 1 or low 2 response. The reason for this was due to vague responses using terms from the diagram e.g. thick outer layer with no clarity or comparison. Candidates need to be clear how the structures of the artery, compared with the vein and capillary are similar or different. Many candidates discussed the vessels carrying oxygenated or deoxygenated blood, which was not creditable.

	<b>AfL</b>	Students need to be taught how to address the command verbs. For the command verb 'compare' students need to show what is similar or different. In this instance this would be to clearly show how the structure of the artery is similar or different to the vein and capillary.
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### Question 5 (d) (ii)

- (ii) The build-up of fatty deposits in the walls of arteries can lead to coronary heart disease (CHD).

Identify **two** symptoms of CHD.

1 .....

2 .....

[2]

Most candidates achieved 2 marks for this question.
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### Copyright

Question 3(a)

Structure of ear diagram, Benjamin Gorman, adapted from 'A Framework for Speechreading Acquisition Tools', March 2018, [www.discovery.dundee.ac.uk](http://www.discovery.dundee.ac.uk), University of Dundee. Reproduced by permission of Benjamin Gorman.

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