



## Level 3 Cambridge Technical in Health and Social Care

**Time allowed: 2 hours**  
**C442/2101**

No extra materials are needed.

Please write clearly in black ink.

Centre number

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Candidate number

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First name(s)

Last name

Date of birth

D	D	M	M	Y	Y	Y	Y
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- Use black ink.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

- The total mark for this paper is **100**.
- The marks for each question are shown in brackets [ ].
- Quality of extended response will be assessed in questions marked with an asterisk (\*).
- This document has **20** pages.

- Read each question carefully before you start your answer.

FOR EXAMINER USE ONLY	
Question No	Mark
1	/27
2	/20
3	/21
4	/15
5	/17
<b>Total</b>	<b>/100</b>

Answer **all** the questions.

**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.

<b>glucagon</b>	<b>insulin</b>	<b>adrenal</b>	<b>thyroid</b>
<b>pituitary</b>	<b>adrenalin</b>	<b>ovaries</b>	<b>testes</b>

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]

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

.....[1]

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

.....[1]

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

.....[1]

**(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]

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

1 .....

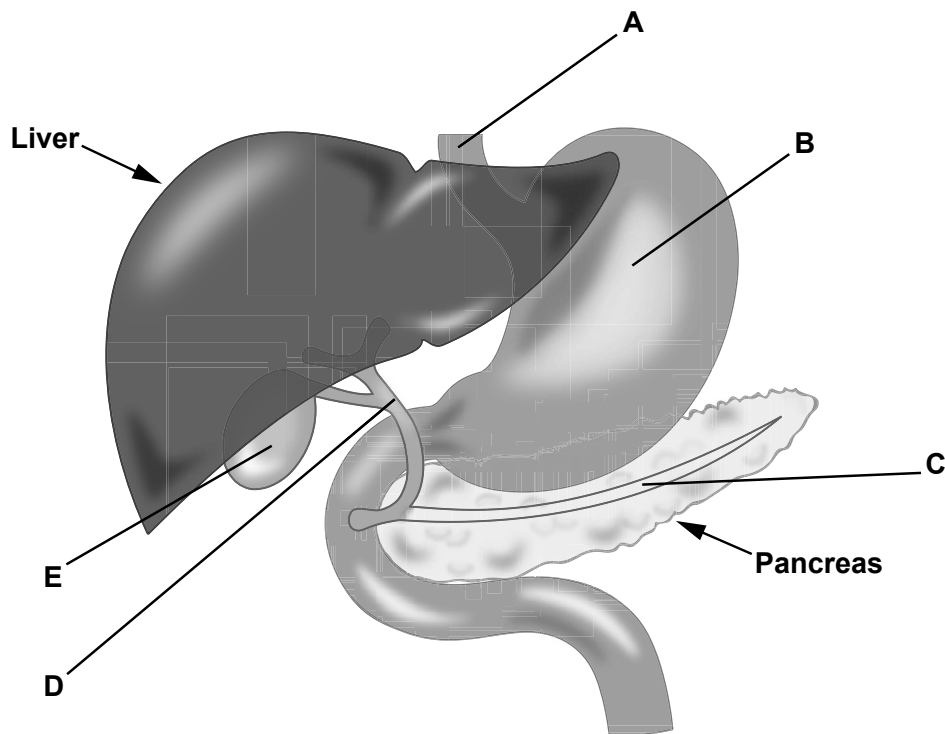
.....

2 .....

.....

[2]

(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]

**(d)** Complete the sentences about digestion in the stomach.

Use words from the list.

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

<b>hormone</b>	<b>churn</b>	<b>digest</b>	<b>acid</b>	<b>alkali</b>
<b>cell</b>	<b>enzyme</b>	<b>protein</b>	<b>mechanical</b>	<b>chemical</b>

When food enters the stomach, it is mixed with digestive juices. The muscular walls of the stomach ..... the food with the juices, which is called ..... digestion.

The stomach produces ..... which helps to destroy bacteria.

It also produces the ..... that breaks down large ..... molecules into smaller ones.

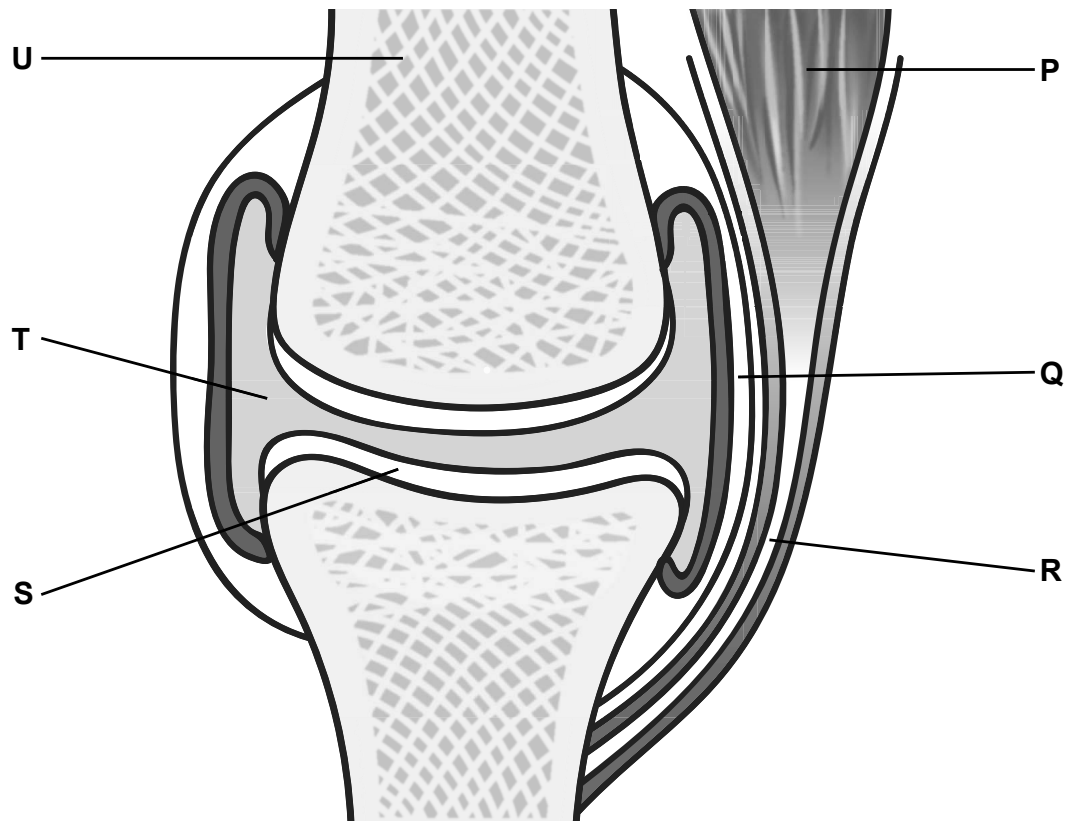
This is called ..... digestion.

**[6]**





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]

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

Name **two** other types of joint.

1 .....

2 .....

[2]

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

Malfunction: .....[1]

Symptom: .....[1]

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

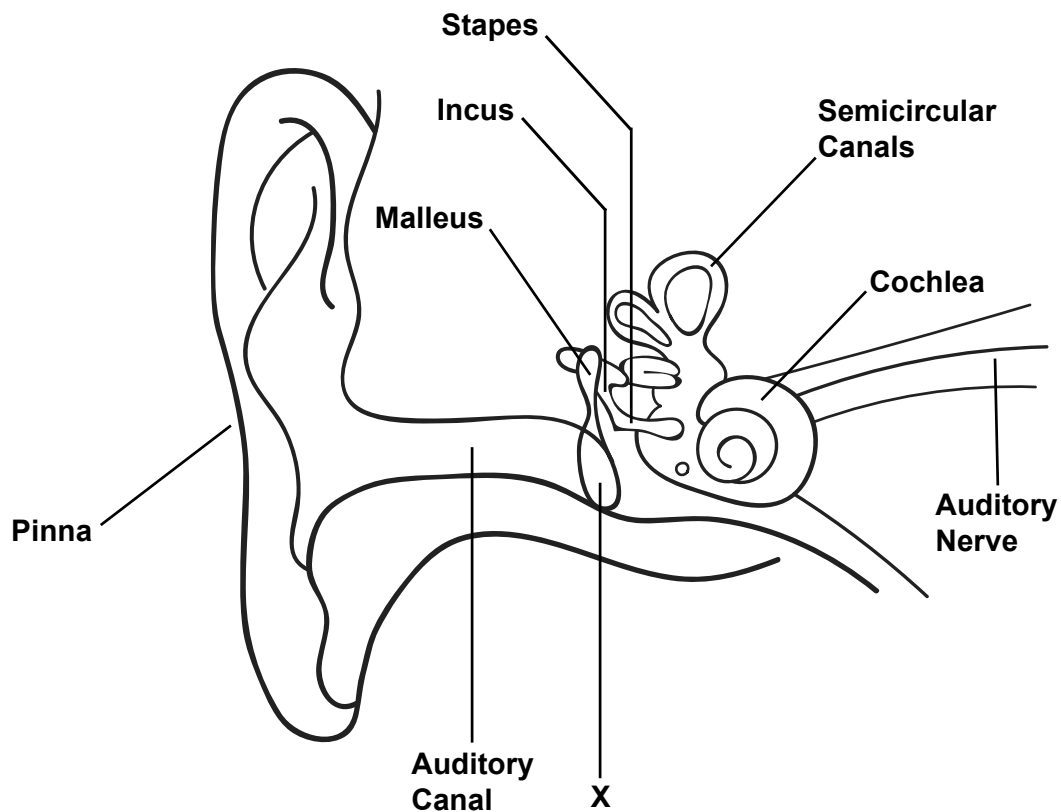
[6]

**(d)\*** Bone marrow helps to produce cells, such as erythrocytes. Erythrocytes are components of blood.

Describe, in detail, the functions of at least **two** other components of blood.

.....[6]

- 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]

- (ii) Which structure contains ampullae?

.....[1]

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

.....[1]

- (iv) Name the structure labelled X.

.....[1]





**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]

- (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]

- (c) Asthma and emphysema are both respiratory malfunctions.

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

Asthma: .....

.....

Emphysema: .....

.....

[2]



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

[8]

**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]**

**(b)** The kidney contains thousands of nephrons.

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

1 .....

.....

.....

.....

2 .....

.....

.....

.....

**[4]**

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

.....**[1]**













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