

New  
Specification

Rewarding Learning

ADVANCED SUBSIDIARY (AS)  
General Certificate of Education  
2017

Centre Number

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Candidate Number

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# Health and Social Care

Assessment Unit AS 7

*assessing*

Understanding the Physiology of  
Health and Illness



\*SHC71\*

[SHC71]

WEDNESDAY 24 MAY, MORNING

## TIME

2 hours.

## INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.  
Answer **all three** questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Quality of written communication will be assessed in questions **1(d)(ii)**, **3(b)** and **3(f)**.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

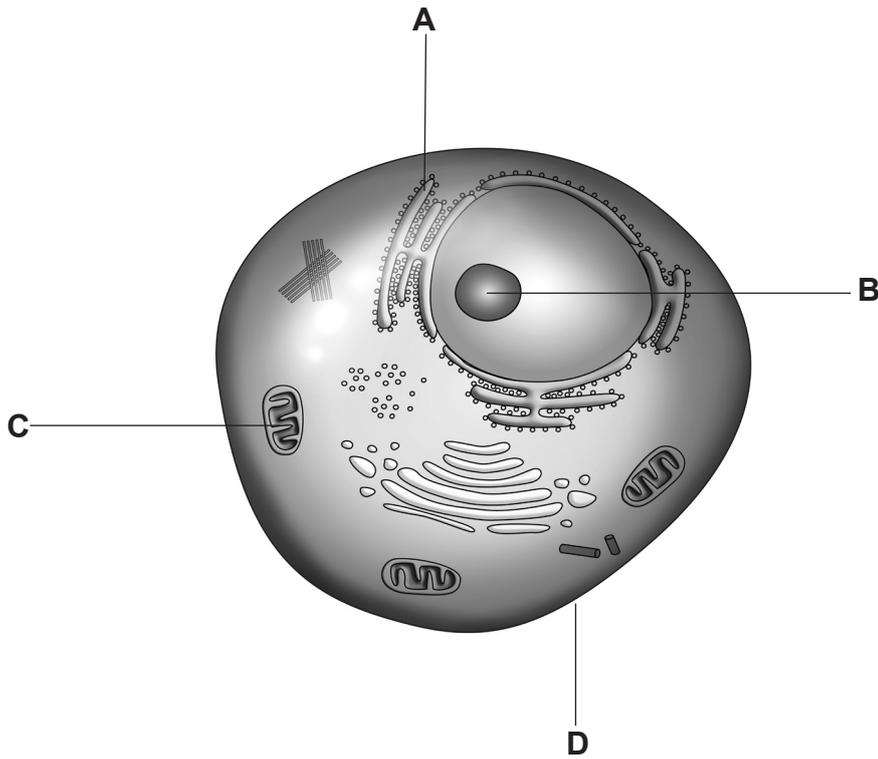
For Examiner's  
use only

### Section A

Question Number	Marks
1	
2	
3	

Total Marks	
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1 The diagram below shows the structure of a generalised animal cell.



© Schmitt / BSIP / Science Photo Library

(a) (i) Name the structures labelled **A**, **B**, **C** and **D**.

- A** \_\_\_\_\_ [1]
- B** \_\_\_\_\_ [1]
- C** \_\_\_\_\_ [1]
- D** \_\_\_\_\_ [1]

(ii) Explain the link between the functions of **A** and **B**.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ [2]

Examiner Only	
Marks	Remark

(iii) Structure **C** is found in large numbers in a muscle cell. Explain why a muscle cell has so many of these.

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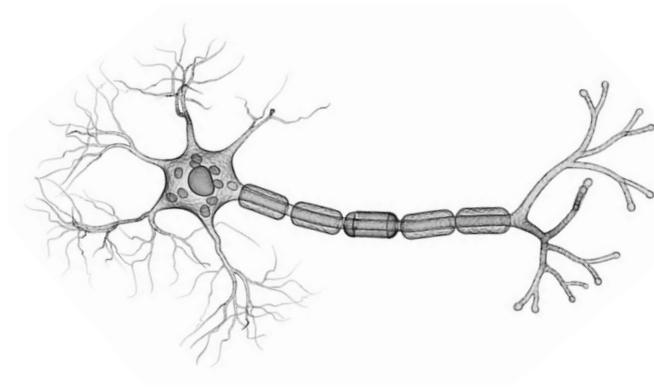
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[2]

Examiner Only	
Marks	Remark

(b) The diagram below shows a specialised nerve cell.



© Pixologicstudio / Science Photo Library

(i) Circle the correct answer. The cell shown in the diagram is a ...

motor neurone      association neurone      sensory neurone      [1]

(ii) Explain how this cell is specialised in order to perform its function.

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[2]

(iii) The nerve cell shown is one of three nerves involved in a reflex action. Explain what is meant by a reflex action.

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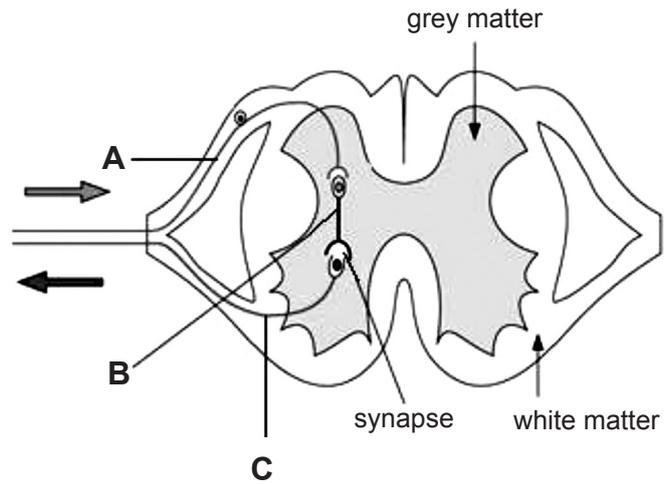
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[2]

Examiner Only	
Marks	Remark

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- (c) The diagram below shows three neurones involved in a reflex arc and how they interact within the spinal cord.



© CCEA

- (i) Write down the names of the neurones labelled **A**, **B** and **C**.

**A** \_\_\_\_\_ [1]

**B** \_\_\_\_\_ [1]

**C** \_\_\_\_\_ [1]

Examiner Only

Marks Remark



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[6]

Examiner Only	
Marks	Remark







- 2 (a) A tissue is a group of cells working together to perform a common function. Match each of the connective tissues with its description by joining them with a line.

Bone

Found in areas that need strength and flexibility

Adipose

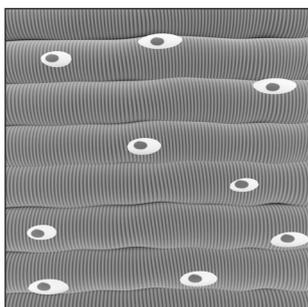
Made up mainly of collagen and minerals

Cartilage

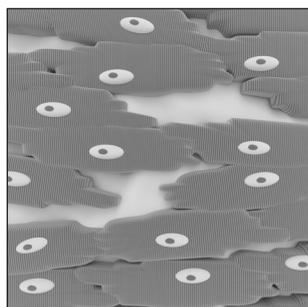
Provides insulation and an energy store

[3]

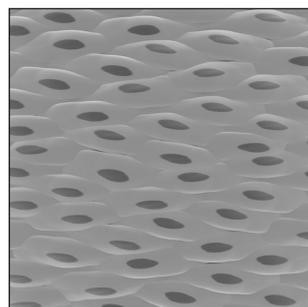
- (b) Write down the name of each of the muscle tissues shown below.



© Science Photo Library



© Science Photo Library



© Science Photo Library

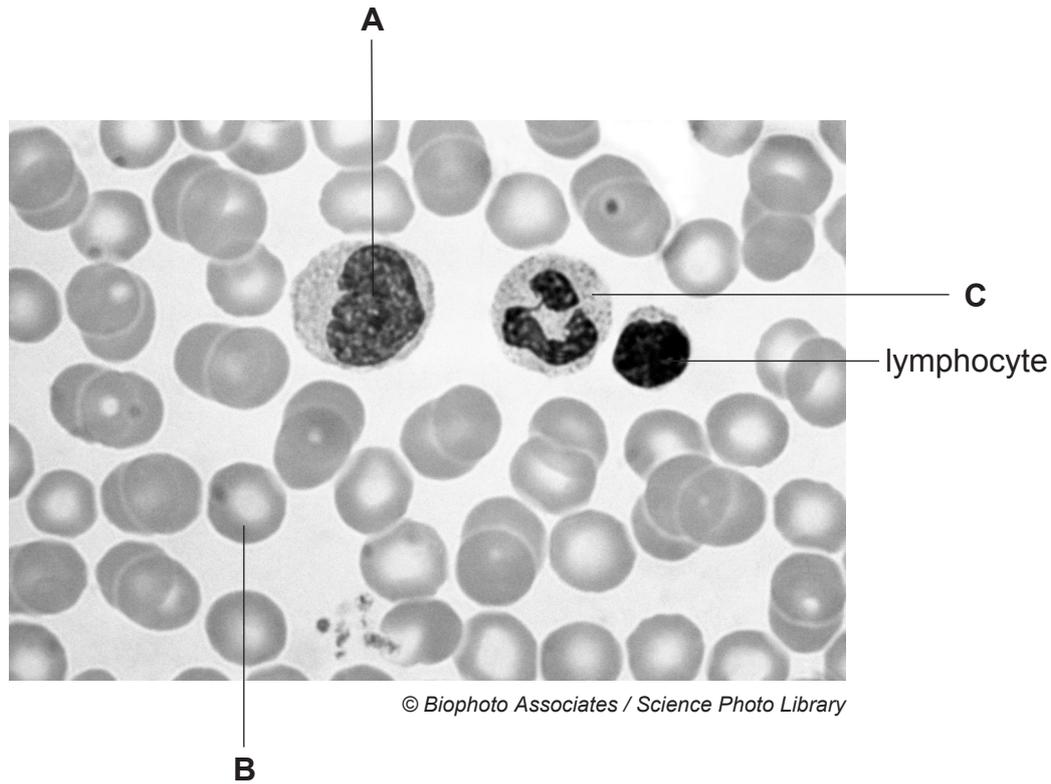
\_\_\_\_\_ muscle tissue [1]

\_\_\_\_\_ muscle tissue [1]

\_\_\_\_\_ muscle tissue [1]

Examiner Only	
Marks	Remark

(c) The photograph below shows the parts of blood tissue.



Source: Science Photo Library

(i) Identify the cells **A**, **B**, and **C**.

**A** \_\_\_\_\_ [1]

**B** \_\_\_\_\_ [1]

**C** \_\_\_\_\_ [1]

(ii) Explain the role of the lymphocyte labelled in the photograph.

\_\_\_\_\_

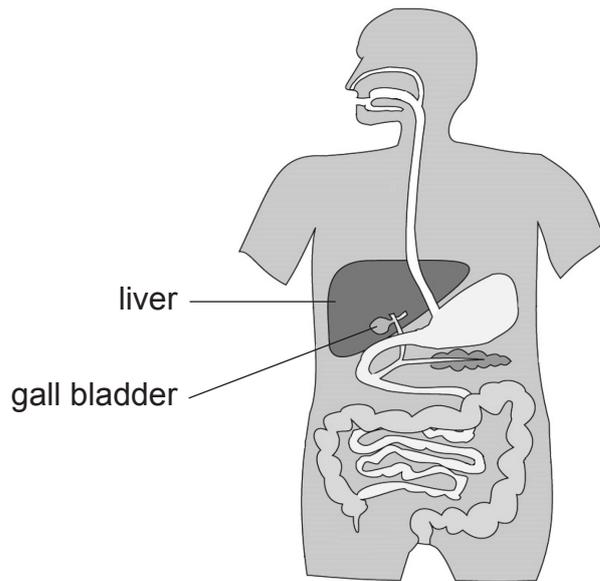
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\_\_\_\_\_ [2]

Examiner Only	
Marks	Remark

- (d) The diagram below shows the organs of the digestive system, including the liver and gall bladder where bile is produced and stored before being released into the small intestine.



© CCEA

- (i) Explain the role of bile in digestion.

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[2]

- (ii) Explain the role of the liver in deamination of excess amino acids.

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[2]

Examiner Only

Marks Remark

(e) Elaine has recently experienced stomach pain after eating. Doctors suspect she may have a stomach ulcer. Describe the physiological process that leads to the development of a stomach ulcer.

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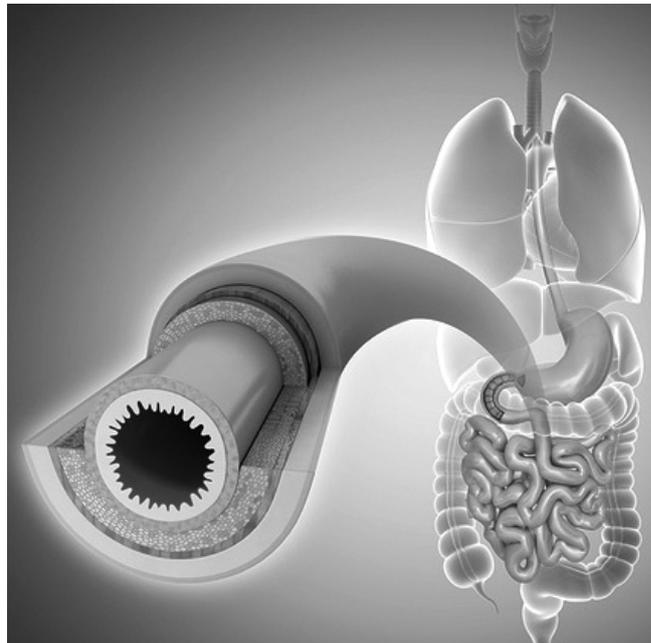
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[3]

(f) The diagram below shows a cross section of the ileum (small intestine).



© Pixologicstudio / Science Photo Library

Describe how the ileum is adapted to allow faster absorption of food into the bloodstream.

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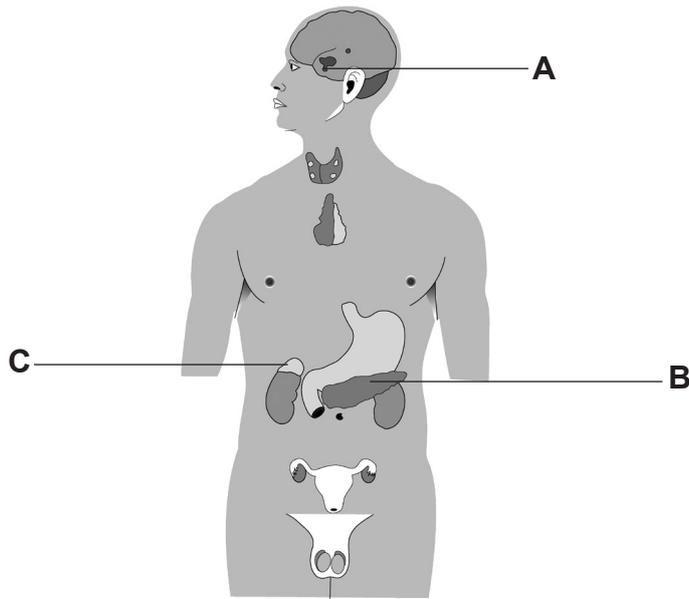
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[3]

Examiner Only	
Marks	Remark

3 The diagram below shows parts of the endocrine system.



© Francis Leroy, Biocosmos / Science Photo Library

(a) (i) Write down the name of the glands **A**, **B** and **C**.

**A** \_\_\_\_\_ [1]

**B** \_\_\_\_\_ [1]

**C** \_\_\_\_\_ [1]

(ii) Describe the effect that the release of anti diuretic hormone (ADH) will have on the kidney and urine output.

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\_\_\_\_\_ [3]

Examiner Only	
Marks	Remark













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**THIS IS THE END OF THE QUESTION PAPER**

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