



*Rewarding Learning*  
**ADVANCED SUBSIDIARY (AS)**  
General Certificate of Education  
2023

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]**

**TUESDAY 6 JUNE, 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.

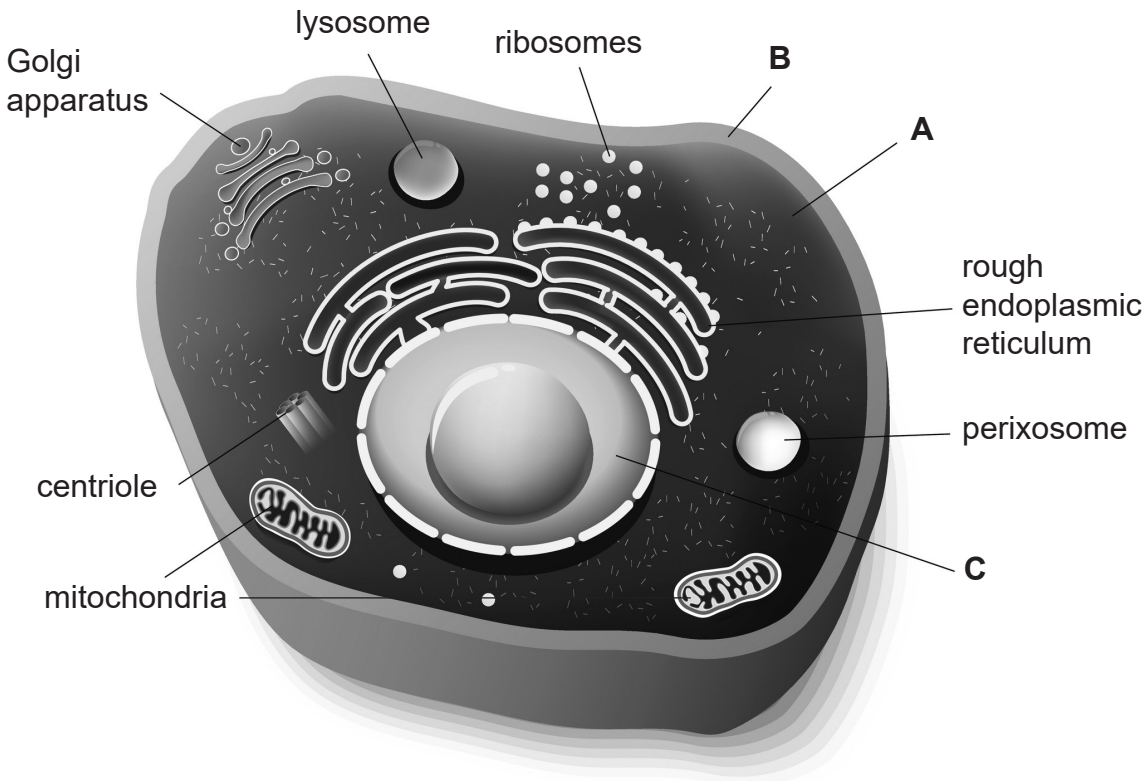
Quality of written communication will be assessed in questions

**2(b)(iii)**, **3(b)(iv)** and **3(c)(iii)**.

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	
Question Number	Marks
1	
2	
3	
<b>Total Marks</b>	

1 (a) The diagram below shows the structure of a generalised animal cell.



Source: © Getty Images

(i) Write down the name and **one** function of the organelles labelled **A**, **B** and **C**.

**A:** Name \_\_\_\_\_ [1]

Function \_\_\_\_\_ [1]

**B:** Name \_\_\_\_\_ [1]

Function \_\_\_\_\_ [1]

**C:** Name \_\_\_\_\_ [1]

Function \_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

(ii) Explain why muscle cells contain an abundance of mitochondria.

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[2]

(b) Complete the table by naming the tissue, its function and the area of the body where the tissue can be found.

Name of tissue	Function	Area of body where the tissue may be found
epithelial	protection, secretion, absorption, excretion, filtration, diffusion and sensory reception	
connective		between groups of nerve and muscle cells
	to cause movement	biceps
	to contract cardiac fibres and so expel blood from the heart	the heart

[4]

(c) Body systems work together to control the many processes that occur in the human body. Match the following systems to the statements below.

nervous system

endocrine system

Sends signals through the means of electrical action potentials to target organs

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[1]

Sends signals to the target cells and tissues through the means of chemicals known as hormones

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[1]

Examiner Only	
Marks	Remark





(e) Roy, who works as an accountant in a busy city practice, often skips meals or eats on the go. He visited his GP recently because he was experiencing ongoing stomach pain and he has been diagnosed with a stomach ulcer.

(i) Describe the physiological changes that lead to the diagnosis of a stomach ulcer.

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[3]

(ii) Explain how Roy might need to adapt his diet as a result of his recent diagnosis.

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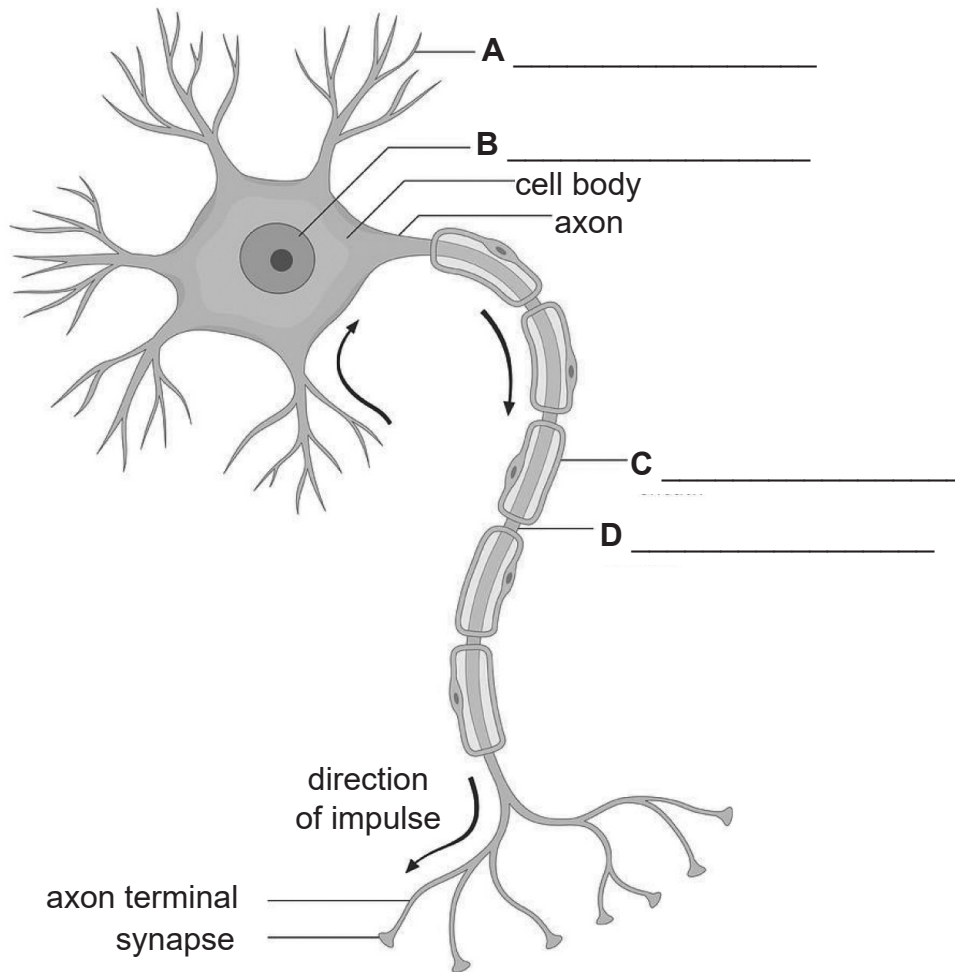
[2]

Examiner Only	
Marks	Remark



(b) (i) Name the specialised nerve cell shown in the diagram below and label the parts **A**, **B**, **C** and **D**.

Name of cell \_\_\_\_\_ [1]



Source: © Getty Images  
[4]

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

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

Examiner Only	
Marks	Remark





(ii) Describe how a diagnosis of MS may potentially impact on Tom's relationships.

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[3]

Examiner Only	
Marks	Remark

Examiner Only	
Marks	Remark

**3** The human body requires blood glucose to be maintained within a very narrow range. Following digestion, sugars are normally stored as glycogen in the liver and are then converted back to glucose as and when the body requires.

**(a)** Fill in the missing words to identify the role of the two hormones involved in the process outlined above.

When blood sugar levels rise, the body releases \_\_\_\_\_  
 and when blood sugar levels drop, the body releases \_\_\_\_\_  
 \_\_\_\_\_ to raise them. [2]

**(b)** Sarah is 14 years old and has recently been feeling very tired and lethargic. She has been needing to urinate frequently and is experiencing excessive thirst. Her mother contacted the GP and an appointment was made for her to attend the surgery the following morning. She was asked not to eat breakfast before her appointment as her GP wanted to carry out a fasting blood glucose test. The test has identified that her glucose levels are 17.5 mmol/L.

**(i)** Suggest why Sarah's GP suspects that she has diabetes.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

**(ii)** Following more detailed tests, a diagnosis of type 1 diabetes has been confirmed. Describe the physiological cause of type 1 diabetes.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

(iii) Complete the following sentence.

A normal blood glucose reading is between

\_\_\_\_\_ mmol/L and \_\_\_\_\_ mmol/L.

[2]

Examiner Only	
Marks	Remark





(c) There are two main types of stroke, both of which can impact significantly on health and well-being.

(i) Identify the **two** different types of stroke.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

(ii) Identify **two** causes of stroke.

1. \_\_\_\_\_ [1]

2. \_\_\_\_\_ [1]

Examiner Only	
Marks	Remark





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

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