

Centre Number			
71			

Candidate	Number
Canulatt	Tumber

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2010

## **Health and Social Care**

Assessment Unit AS 14

assessing

Unit 14: Understanding Human Physiology
[A3H81]

**THURSDAY 27 MAY, AFTERNOON** 



#### 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 four** questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

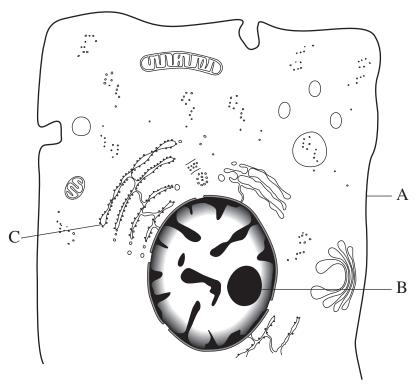
Quality of written communication will be assessed in questions 2(b), 3(a)(iii), 3(b), 4(a)(iii) and 4(b)(iii).

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			
4			

7F ( 1	
Total	1
Manles	1
Marks	1

# 1 (a) This is a diagram of a typical human body cell.



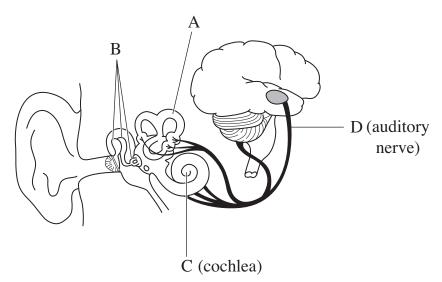
 $^{\circ}$  Introduction to Advanced Biology by CJ Clegg, published by Hodder Education, 2000, ISBN 978 07195 76713. Reproduced by permission of Hodder & Stoughton Ltd

Write down the name and **one** function of A, B and C.

A	Name:	[1]
	Function:	
		[1]
В	Name:	[1]
	Function:	
		[1]
C	Name:	[1]
	Function:	
		[1]

	2
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**(b)** This is a diagram of the human ear.



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<b>(i)</b>	Write down the name and <b>one</b> function of parts A and B.	

A	Name:		[1	.]
		<del></del>		

Function:

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

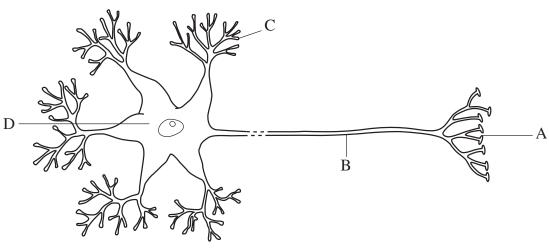
Function:

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

(ii) Us	e the diagram	to discuss	how sound	is transmitted	from C to D.
---------	---------------	------------	-----------	----------------	--------------

	phan, aged 14, has conductive hearing loss. He also has myopia	-	Examiner Onl Marks Rema
(i)	Write down two causes of conductive hearing loss.		
	1	[1]	
	2		
(ii)	Explain how myopia may affect Stephan's vision.		
		[2]	
(iii)	Discuss two ways that Stephan's life may be affected by his hearing and vision disabilities.		
	1		
		[3]	
	2		
		[3]	

# 2 This is a diagram of a neurone.



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(a)	Write down	the name a	and function	of parts A,	В,	C and D
-----	------------	------------	--------------	-------------	----	---------

A	Name:	[1]
	Function:	
		[1]
В	Name:	[1]
	Function:	
		[1]
C	Name:	[1]
	Function:	
		[1]
D	Name:	[1]
	Function:	
		[1]

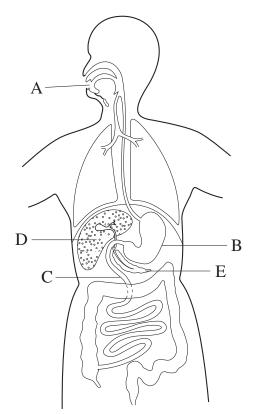
**Examiner Only** 

<b>(b)</b>	Jam jum	es was out walking when attacked by a dog. He panicked and ped over a wall.		Examine Marks	er Only Remark
	Disc	euss the role of each of the following in James's reactions.			
	(i)	The adrenal gland			
			_		
			_		
			_		
			_		
			_		
			_		
			- 6]		

reflex action		Examir Marks	Ren
	[6]		

(ii)

3 This is a diagram of the digestive system.



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- (a) (i) Identify A, B and C in the diagram and write down the name of **one** enzyme present in each.
  - A Name: \_\_\_\_\_ [1]

Enzyme: \_\_\_\_\_ [1]

B Name: [1]

Enzyme: \_\_\_\_\_\_ [1]

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

Enzyme: \_\_\_\_\_ [1]

Explain two ways the liver (D) helps to process waste food.		larks
•		
	503	
	_ [2]	
	_ [2]	
Discuss how the pancreas (E) functions as an endocrine organ		

	Ex Ma	rks Remar	
[9]	,		
[9	J		

monitored his blood glucose and insulin levels for one day to find out if he has Type 1 diabetes. The results of the monitoring are recorded in the graphs below. **Normal Trace** Sigmund's Trace 8am <sub>10</sub> noon <sub>2</sub> 4pm <sub>6</sub> 8pm 8am 10am noon 2pm 4pm 6pm 8pm Key: Key: blood glucose blood glucose \_\_\_ concentration of hormone \_\_\_ concentration of hormone © Adapted with the permission of Nelson Thornes Ltd from New Biology for You, Gareth Williams, pg. 175, ISBN 987-0-7487-8325-0 Analyse the results to discuss if Sigmund has Type 1 diabetes.

**(b)** Sigmund has been feeling unwell for some time. The hospital

		Examine	
		Marks	Remark
	•		
	,		
[8	1		

y the following terms:
[2]
[2]
Kimi is more at risk from hypothermia
[2]
[2]

		Marks
 	 	-
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	Examin	
	Marks	Remark
_		
 [9]		

(b)	stre buy pub He	en, aged 46, works as a computer programmer. His job is very essful. When he works late he skips his evening meal and either as fish and chips, which he has with a few beers, or goes to the lowith his colleagues and buys a takeaway meal on his way hom likes to play football at the weekend. Chen has begun to have dominal pains and his doctor thinks he may have a stomach ulcer	Marks ocal e.	Remark
	Use	e the information in the passage to answer the following question	ns.	
	(i)	Identify two factors which may have contributed to the development of Chen's ulcer.		
		1	F43	
		2	5.15	
(	(ii)	Explain how an ulcer develops in the digestive tract.		
			[2]	
(	iii)	Analyse the potential impact of the stomach ulcer on Chen's lifestyle.		

	Exam Mark	niner Only s Remark
	wark	5 Kemark
[9]		

THIS IS THE END OF THE QUESTION PAPER

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