



Rewarding Learning
ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2011

Centre Number

71

Candidate Number

Health and Social Care

Assessment Unit AS 14

assessing

Unit 14: Understanding Human Physiology

[A3H81]

TUESDAY 24 MAY, AFTERNOON



A3H81

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, 3 and 4.

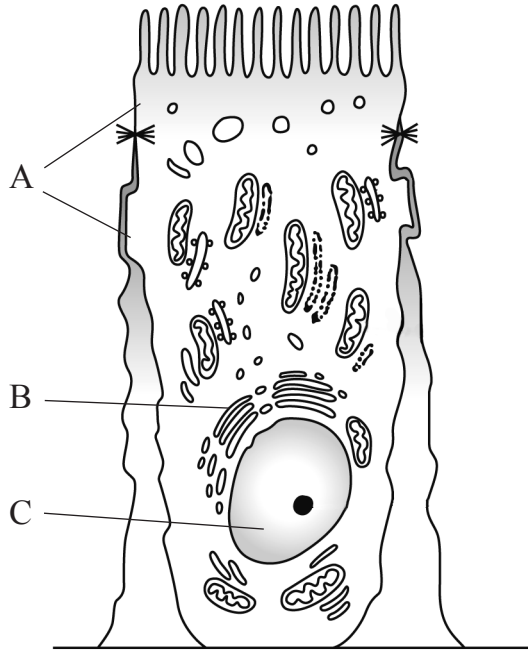
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only

Question Number	Marks
1	
2	
3	
4	
Total Marks	

1 (a) This is a cross-sectional diagram of a cell from the digestive system.

Examiner Only	
Marks	Remark



© Physiology and Anatomy by John Clancy and Andrew McVicar, published by Hodder Arnold, 2002, ISBN 978 0340762394. Reproduced by permission of Hodder Education

The cell contains organelles labelled A, B and C.

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

A _____ [1]

Function _____

_____ [1]

B _____ [1]

Function _____

_____ [1]

C _____ [1]

Function _____

_____ [1]

(b) Discuss the functions of each of the following substances found in the human body.

Enzymes

_____ [3]

Bile

_____ [3]

Adrenaline

_____ [3]

Examiner Only	
Marks	Remark

--	--

(c) Explain two ways that the functioning of the endocrine system differs from that of the nervous system.

1. _____

_____ [2]

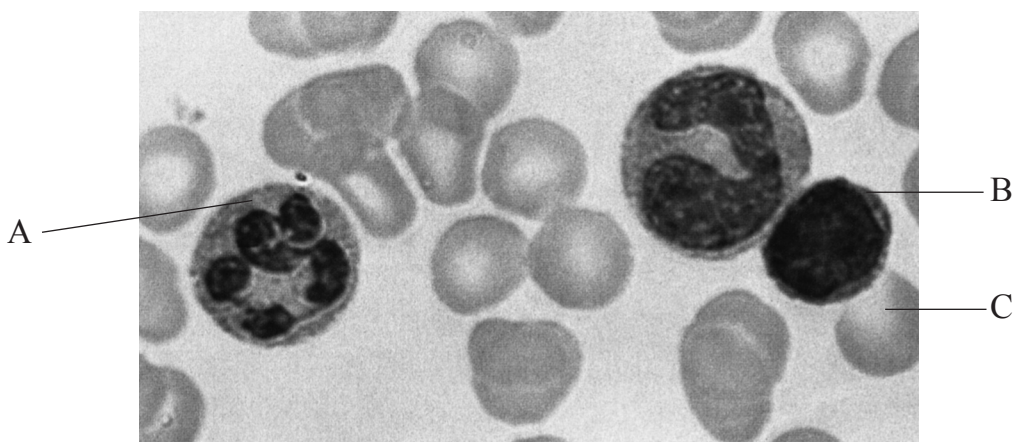
2. _____

_____ [2]

Examiner Only	
Marks	Remark

2 (a) George has recently had a number of blood tests carried out.

This is an image of one blood smear that was produced.



© Introduction to Advanced Biology by Dr C J Clegg, published by John Murray, 2000, ISBN 0719576717

Identify and write down **one** function of each of the cells labelled A, B and C.

A _____ [1]

Function _____

_____ [1]

B _____ [1]

Function _____

_____ [1]

C _____ [1]

Function _____

_____ [1]

Examiner Only	
Marks	Remark

(b) George is concerned that he may have either an ulcer or cirrhosis of the liver. Explain what is meant by:

an ulcer

[2]

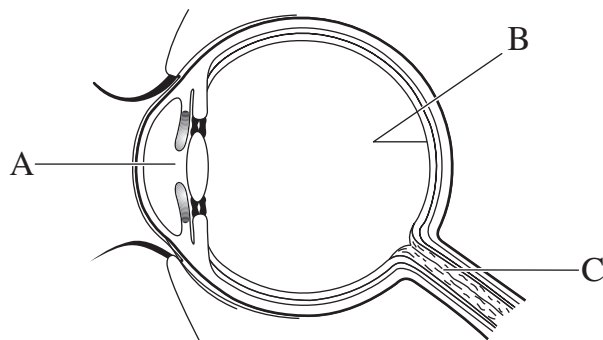
cirrhosis of the liver

[2]

(c) Discuss the functions of the liver.

Examiner Only	
Marks	Remark

3 (a) This is a diagram of the eye.



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Gareth Williams, 978-0-7487-8325-0, first published in 2006

(i) Identify and write down **one** function of each of the parts labelled A, B and C.

A _____ [1]

Function _____

_____ [1]

B _____ [1]

Function _____

_____ [1]

C _____ [1]

Function _____

_____ [1]

Examiner Only	
Marks	Remark

- (ii) Jane has always had myopia but as she has become older she has also developed a cataract in one of her eyes.

Explain what is meant by:

a cataract

[2]

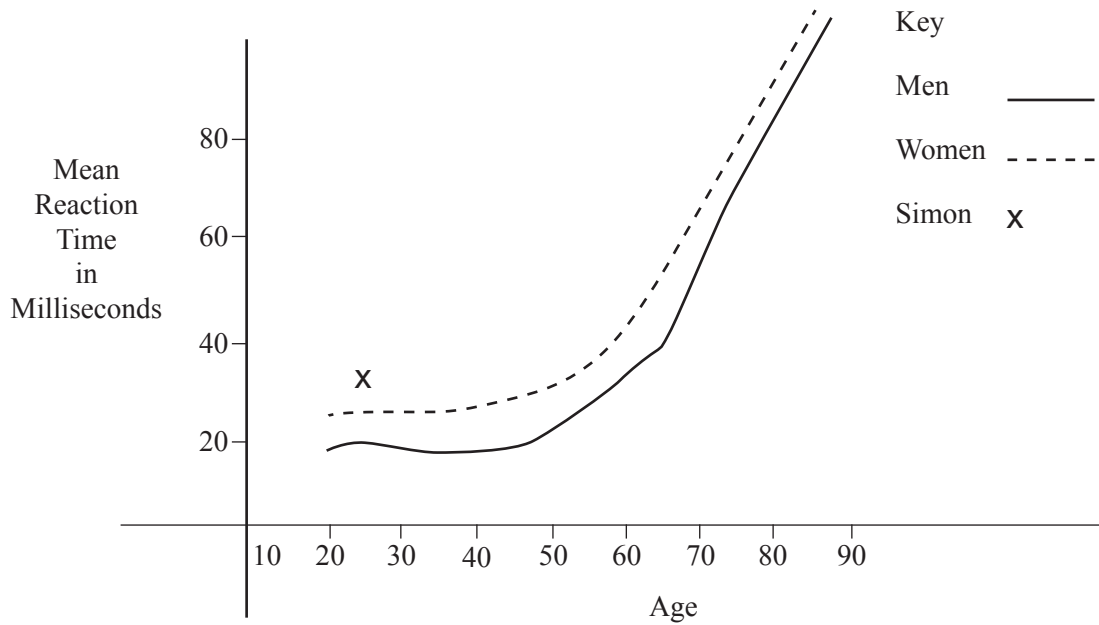
myopia

[2]

Examiner Only	
Marks	Remark

(b) Simon, aged 25, has recently undergone investigations for Multiple Sclerosis. This included testing his reaction time. His result is compared to normal reaction times on the graph below.

Examiner Only	
Marks	Remark



(i) Analyse the information shown by the graph.

[8]

Examiner Only	
Marks	Remark

(ii) Simon has now been diagnosed with Multiple Sclerosis (MS) which is caused by the degeneration of part of the nervous system.

Discuss what happens to the nervous system to cause MS.

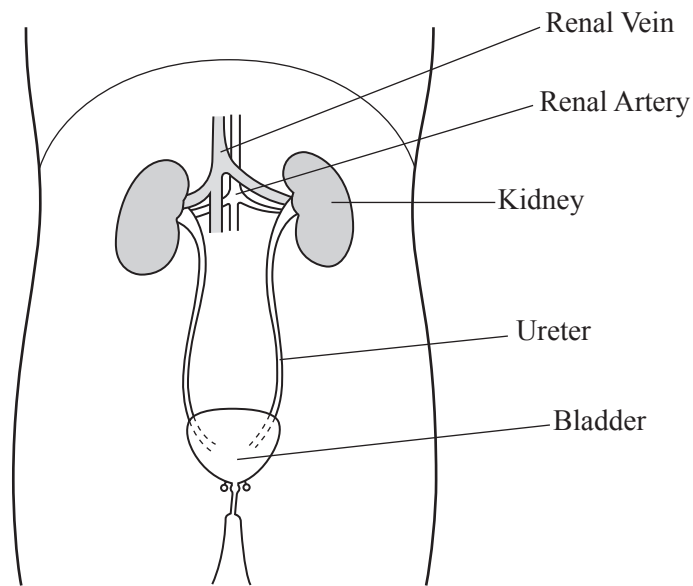
[3]

(iii) Simon works as a plumber for a large national building firm. He still lives at home with his mother and father. He spends his free time on the computer, has developed excellent IT skills and enjoys playing online games and using social networking sites.

Examine the possible impact of MS on Simon’s lifestyle.

Examiner Only	
Marks	Remark

4 (a) This is a diagram of the urinary system.



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(i) Explain the function of each of the following parts:

The kidney

[2]

The renal artery

[2]

Examiner Only	
Marks	Remark

The ureter

[2]

The bladder

[2]

(ii) The bladder can be described as being under semi-voluntary control.

Discuss the meaning of the term semi-voluntary as it applies to the bladder.

[3]

(iii) Write down the names of the two main constituents of normal urine.

1. _____

2. _____ [2]

Examiner Only	
Marks	Remark

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