

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
 TWENTY FIRST CENTURY SCIENCE
 ADDITIONAL APPLIED SCIENCE A**

Life Care (Foundation Tier)

WEDNESDAY 23 JANUARY 2008

Afternoon
 Time: 45 minutes

Candidates answer on the question paper
Additional materials (enclosed): None

Calculators may be used
Additional materials (required):
 Pencil
 Ruler (cm/mm)



Candidate Forename

Candidate Surname

Centre Number

Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Do **not** write outside the box bordering each page.
- Write your answer to each question in the space provided.

INFORMATION FOR CANDIDATES

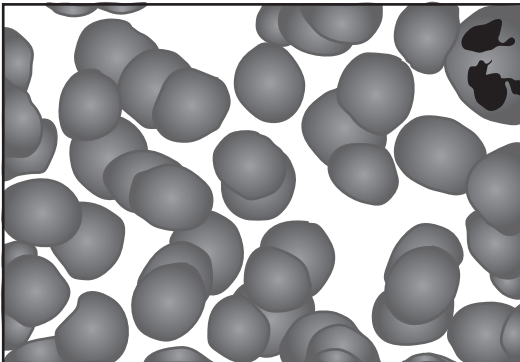
- The number of marks for each question is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **36**.

FOR EXAMINER'S USE		
Qu.	Max.	Mark
1	8	
2	4	
3	6	
4	14	
5	4	
TOTAL	36	

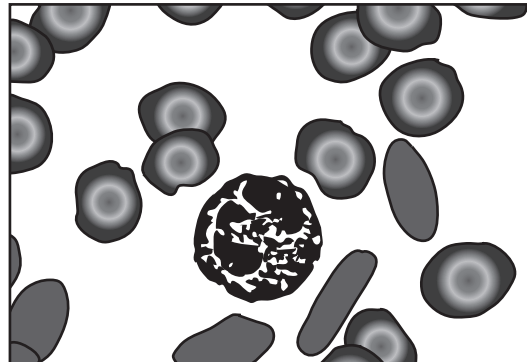
This document consists of **10** printed pages and **2** blank pages.

Answer **all** the questions.

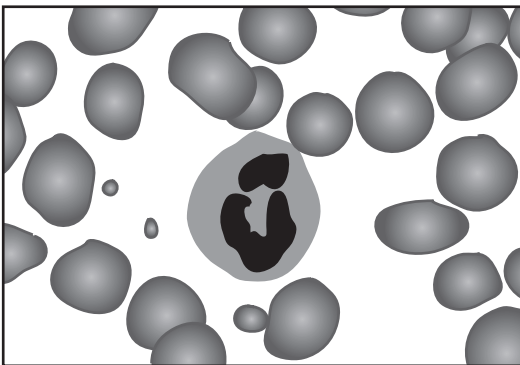
- 1 Jengis works at the hospital as a haematologist.
The diagram shows four blood samples he has to interpret.



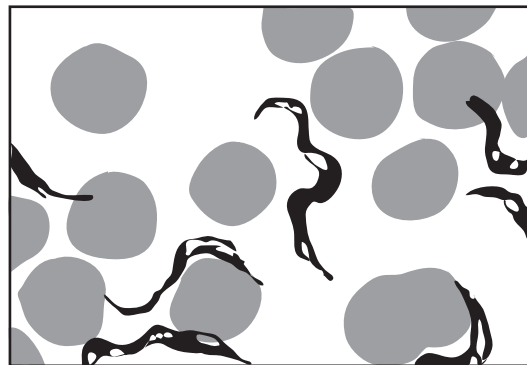
A



B



C



D

- (a) The table gives information about different blood conditions.

Use the blood descriptions to identify the blood samples shown above.
Finish the table. There are **three** gaps.

blood description	condition	blood sample
There are only red and white blood cells visible and none of the cells appear to be distorted.	normal	A
The red blood cells are sickle shaped.	sickle cell anaemia	
There are fewer red blood cells than normal.	anaemia	
There are parasitic worm-like organisms outside the blood cells.	sleeping sickness	

[2]

(b) The blood samples were collected from the patient's blood vessels.

Complete the sentences about blood vessels.
Choose the **best** words from this list.

- arteries
- capillaries
- high
- low
- thick
- thin
- valves
- veins

Each word may be used once, more than once or not at all.

Blood vessels carrying blood away from the heart are called

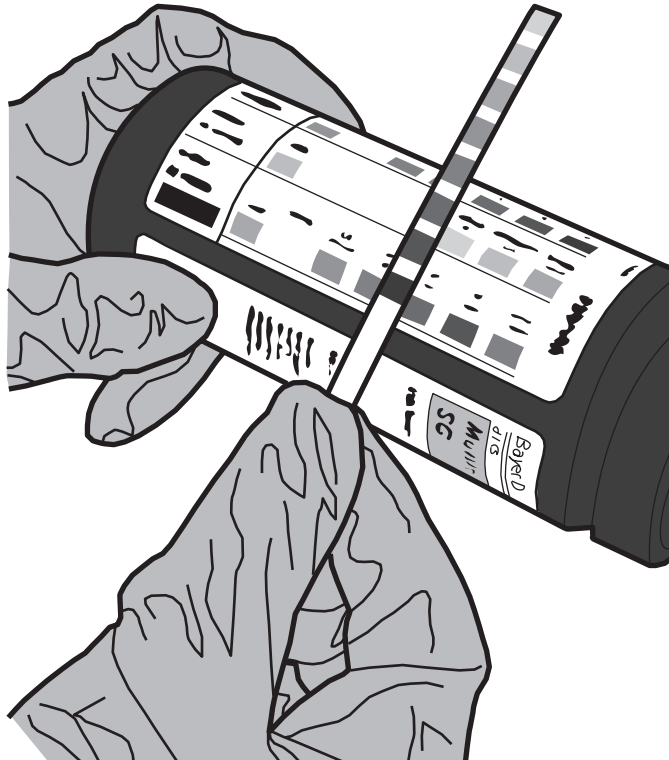
They have walls to carry blood at pressure.

Blood vessels carrying blood back to the heart have walls and
carry blood at pressure.

These blood vessels also have to prevent blood flowing backwards. [6]

[Total: 8]

- 2 Martina moves house. She registers with a new doctor. She goes to the surgery for a medical. The nurse tests Martina’s urine with a test stick.



Test sticks show the presence of different chemicals. Each chemical indicates a medical condition. The presence of glucose shows the condition of diabetes.

- (a) Give **one other** example of a chemical and the medical condition it shows.

chemical

medical condition

[2]

- (b) Write down **one** advantage and **one** disadvantage of using a test stick for testing her urine.

advantage

.....

disadvantage

.....

[2]

[Total: 4]

- 3 Carly has just given birth.
The midwife carries out a series of tests to check the baby's health.
He records all the information.



- (a) Which **four** tests should he carry out?
Put a tick (✓) in each of the **four** correct boxes.

check the length of the umbilical cord

check the number of fingers and toes

check the baby's sex

check the breathing rate

check the hair colour

check the heart rate

check the eye colour

check the weight

[4]

- (b) Explain why this information must be **recorded** accurately.

.....

.....

.....[2]

[Total: 6]

4 Gemma injures her shoulder while playing rugby.
She is taken to the Accident and Emergency Unit at the hospital.

(a) A nurse asks Gemma some questions.

(i) Suggest why the nurse needs to ask questions.

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

(ii) The nurse is very good at listening.
Suggest **one** other personal quality a nurse needs to have.

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

(b) Gemma is kept waiting while other people are rushed in before her.
Suggest why other people are treated before Gemma.

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

(c) The doctor uses a non-invasive technique to look inside Gemma's shoulder.

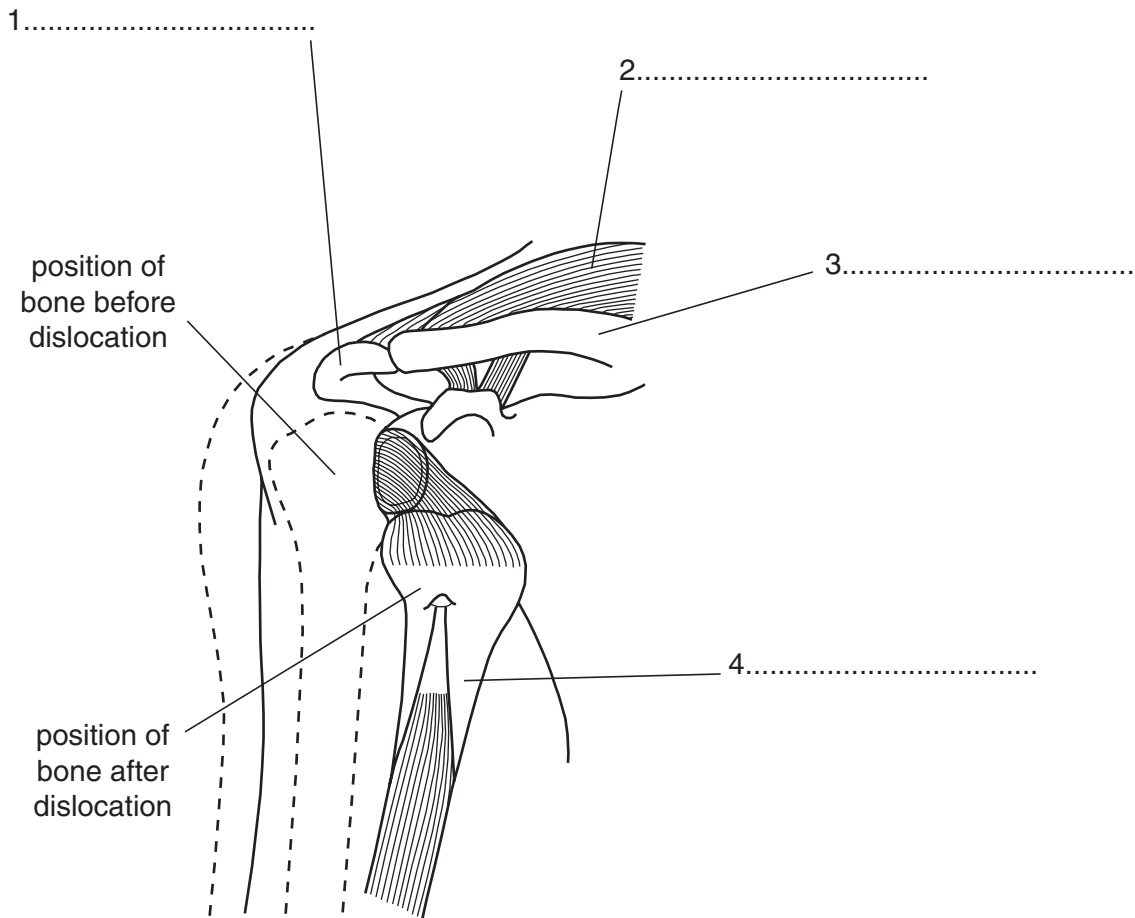
(i) Name a non-invasive technique the doctor could use.

.....[1]

(ii) Explain why non-invasive techniques are used whenever possible.

.....
.....
.....[2]

- (d) The diagram shows what has happened to her shoulder.
The bones in Gemma's shoulder joint have been forced apart (dislocated).



Label the diagram. Choose words from this list.

clavicle
femur
fibula
humerus
muscle
rib
scapula
skull
sternum

[4]

(e) The doctor puts Gemma's joint back into position and refers her to a physiotherapist.

(i) What is the role of a physiotherapist?

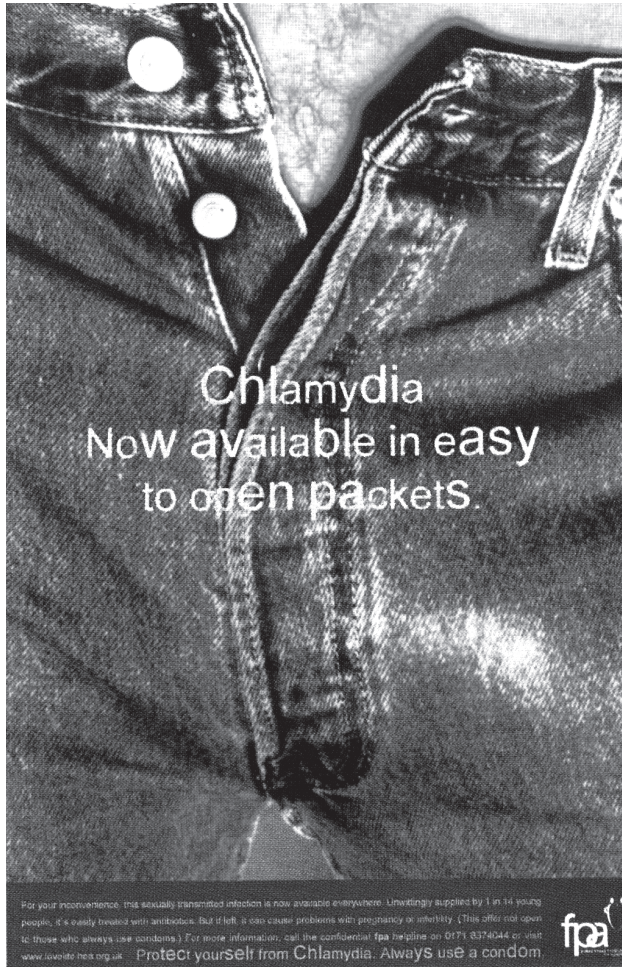
.....
.....
.....[1]

(ii) Gemma needs to strengthen her shoulder muscles.
Describe a set of exercises Gemma could carry out to strengthen her muscles.

.....
.....
.....
.....[3]

[Total: 14]

- 5 The Health Protection Agency tries to educate people about public health problems. This poster tries to educate people about Chlamydia, the most common sexually transmitted infection in the country.



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- (a) Write down **two** reasons why it is important to educate people about public health problems.

1

2

[2]

- (b) Describe **one** other public health campaign that you have seen.

.....

..... [2]

[Total: 4]

END OF QUESTION PAPER

10
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11
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