

Tuesday 12 June 2012 – Morning

**GCSE TWENTY FIRST CENTURY SCIENCE
ADDITIONAL APPLIED SCIENCE A**

A324/01 Life Care (Foundation Tier)

Candidates answer on the Question Paper.
A calculator may be used for this paper.

OCR supplied materials:
None

Other materials required:

- Pencil
- Ruler (cm/mm)

Duration: 45 minutes



Candidate forename		Candidate surname	
Centre number		Candidate number	

MODIFIED LANGUAGE

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **36**.
- This document consists of **8** pages. Any blank pages are indicated.

Answer **all** the questions

- 1 (a) Jasmine finds a fitness club in her area.
Which of the statements about fitness clubs are correct?

Put ticks (✓) in the boxes next to the **three** correct answers.

- | | |
|--|--------------------------|
| They stop you from smoking. | <input type="checkbox"/> |
| They plan exercise programmes. | <input type="checkbox"/> |
| They have a range of exercise equipment. | <input type="checkbox"/> |
| They always make you healthier. | <input type="checkbox"/> |
| They have exercise classes. | <input type="checkbox"/> |

[2]

- (b) Jasmine visits the fitness club for the first time.
She is asked questions about her medical history and lifestyle.

- (i) Write down two things Jasmine should be asked about her **medical history**.

1

2

[2]

- (ii) Write down two things Jasmine should be asked about her **lifestyle history**.

1

2

[2]

[Total: 6]

2 (a) Femi is a blood donor.

- (i) Her body will make more blood to replace the blood she gives.
Which of the following are components found in the blood?

Put a ring around the components of Femi's blood.

bone cell
muscle cell
platelet
red blood cell
starch
urine
white blood cell

[3]

- (ii) Femi has 75cm^3 of blood for every kilogram of her body mass.
She has a body mass of 60 kilograms.
Calculate how much blood is in Femi's body.
Show your working.

answer = cm^3 of blood
[2]

- (b) Femi is also a bone marrow donor.
The bone marrow is taken from her hip bone, which is part of her skeleton.

Suggest **two** functions of Femi's skeleton.

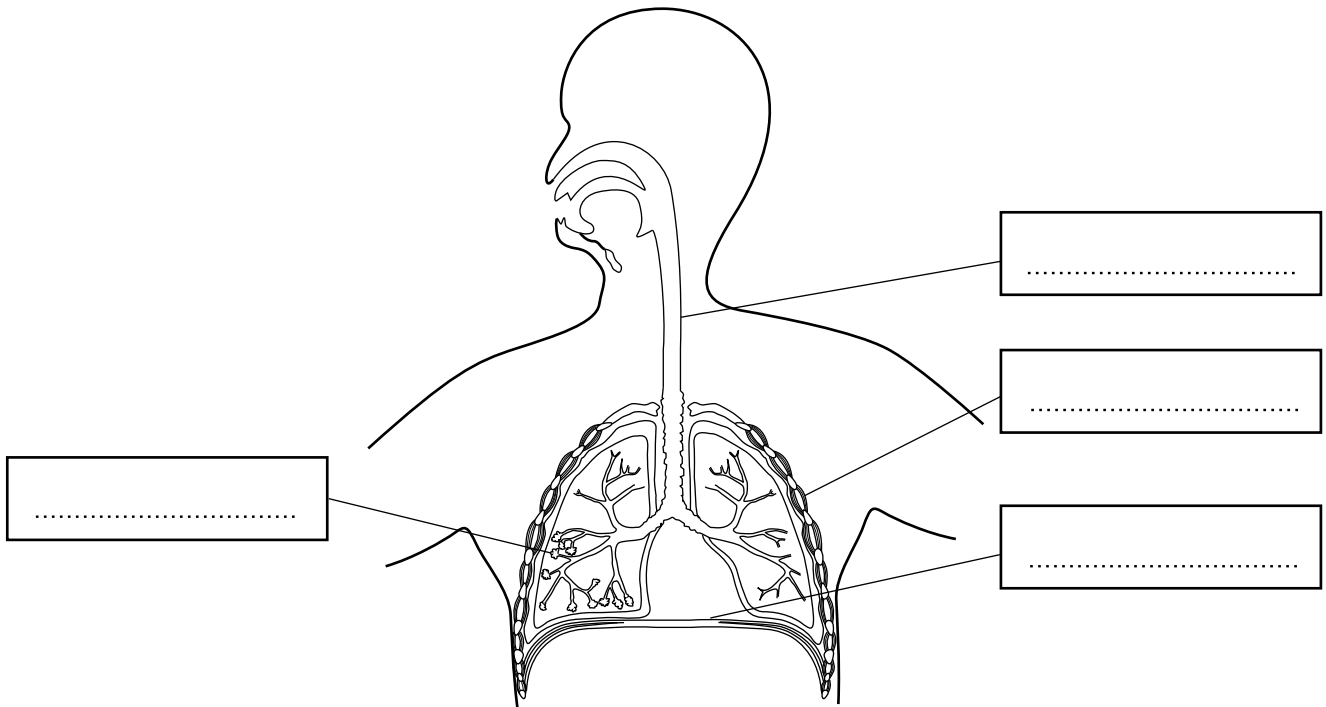
1

2

[2]

[Total: 7]

- 3 Benji has cystic fibrosis.
This means that his lungs fill up with a sticky mucus. This has to be removed every day.
The diagram shows Benji's lungs.



- (a) Look at the diagram of the lungs.
Label the diagram using words from this list.

alveoli
bronchus
diaphragm
intercostal muscles
lung
rib
trachea

[4]

- (b) (i) State **two** ways the structure of alveoli is related to what they do.

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

- (ii) Suggest how the sticky mucus affects Benji's alveoli.

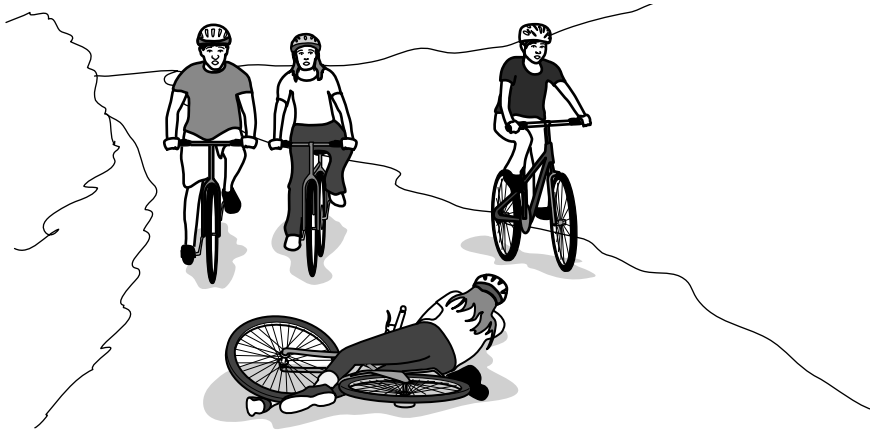
.....
..... [2]

- (c) There is no cure for cystic fibrosis, but Benji has treatment to help relieve the symptoms.
Give one **other** example of a condition which can only be treated and not cured.

..... [1]

[Total: 9]

- 4 Maureen is mountain biking with her friends. She falls off her bike and hits her head. She is unconscious.



An ambulance takes Maureen and one of her friends to hospital. At the hospital Maureen is treated immediately.

- (a) (i) Explain why the hospital staff treated Maureen before other patients.

..... [2]

- (ii) Suggest why it was important that Maureen's friend went to hospital with her.

..... [2]

- (b) The doctor needs more detailed information about her condition and sends her for a non-invasive imaging technique.

- (i) What is meant by a **non-invasive technique**?

..... [1]

- (ii) Name one type of non-invasive imaging technique Maureen might have.

..... [1]

- (iii) Give two advantages of non-invasive imaging techniques.

1 [2]
 2

[Total: 8]

- 5 Misha is in the army.
He injured his leg but now he is recovering.
Misha needs to get fit so he can return to duty in the army.

(a) Briefly describe an example of an exercise programme that Misha could use to improve his fitness.

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

(b) Suggest how Misha's progress could be monitored.

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

(c) Give **two** reasons for changing Misha's exercise programme before it has been completed.

1
.....
2
..... [2]

[Total: 6]

END OF QUESTION PAPER

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