

Candidate forename						Candidate surname					
Centre number						Candidate number					

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE

A324/01

TWENTY FIRST CENTURY SCIENCE
ADDITIONAL APPLIED SCIENCE A

Life Care (Foundation Tier)

TUESDAY 12 JUNE 2012: Morning

DURATION: 45 minutes
plus your additional time allowance

MODIFIED ENLARGED

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)

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name, centre number and candidate number in the boxes on the first page. 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).**

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.**

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Answer ALL the questions

- 1 (a) Jasmine starts a new job living away from home. She uses the internet to find 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.

☐

They plan exercise programmes.

☐

They have a range of exercise equipment.

☐

They always make you healthier.

☐

They run exercise classes.

☐

[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 words 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 75 cm^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.

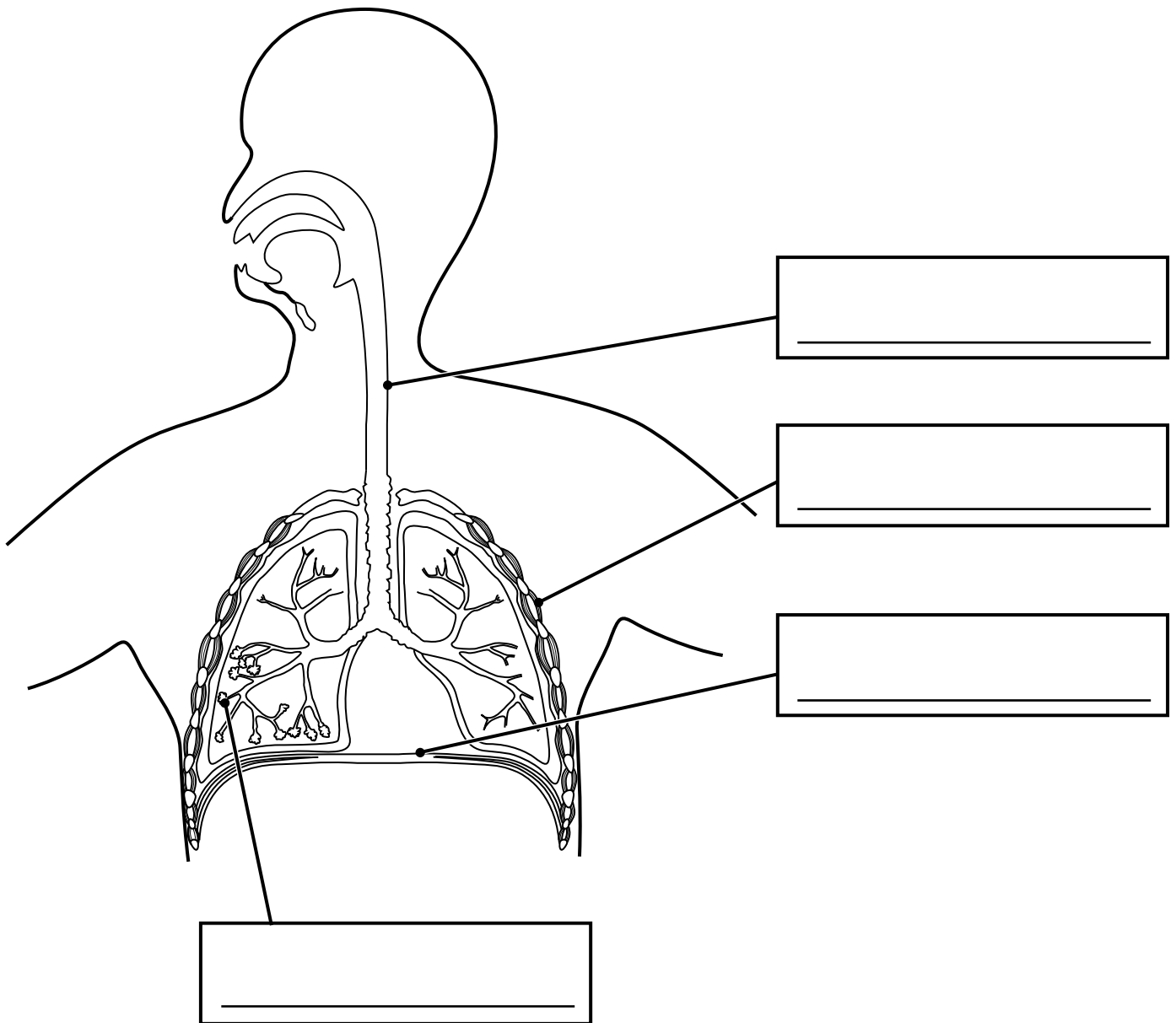
1 _____

2 _____

[2]

[Total: 7]

- 3 Benji has cystic fibrosis.**
This means that his lungs fill up with a sticky mucus,
which has to be removed daily.
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 their job.**

_____ **[2]**

- (ii) Suggest what effect the sticky mucus has in Benji's alveoli.**

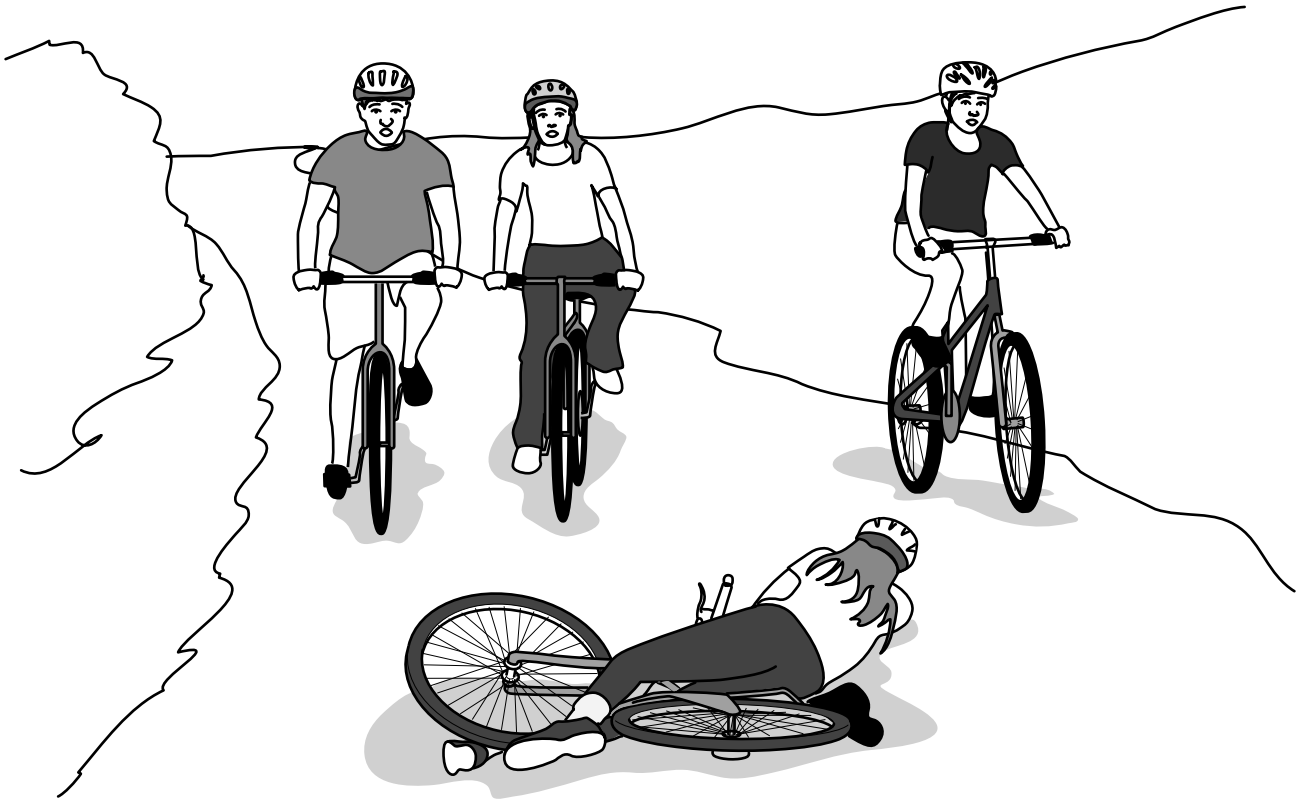
_____ **[2]**

- (c) There is no cure for cystic fibrosis but Benji receives 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 requires more detailed information about her condition so she is sent 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 be given.

_____ [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 is now recovering.
Misha needs to get fit so he can return to duty.**

(a) Briefly describe an example of an exercise programme that could be used 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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