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|--------------------|--|-------------------|--|
| Candidate Forename |  | Candidate Surname |  |
|--------------------|--|-------------------|--|

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|---------------|--|--|--|--|--|------------------|--|--|--|--|
| Centre Number |  |  |  |  |  | Candidate Number |  |  |  |  |
|---------------|--|--|--|--|--|------------------|--|--|--|--|

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

**A324/01**

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

**Life Care  
(Foundation Tier)**

**FRIDAY 12 JUNE 2009: Morning**

**DURATION: 45 minutes**

**SUITABLE FOR VISUALLY IMPAIRED CANDIDATES**

**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 clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use 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.**
- **Write your answer to each question in the space provided, however additional paper may be used if necessary.**

## **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 Gemma sees this notice at her local leisure centre.



Starting Wednesday  
8.00 – 9.00

Belly Dancing for Beginners  
No Experience Needed  
Come and Join In

Gemma goes to the first belly dancing class.  
Before she can join the class the instructor asks her some questions.

(a) Which THREE of the following will the instructor need to know?

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

alcohol consumption

current medication

favourite music

shoe size

tobacco consumption

visits to Egypt

[3]

(b) The instructor also asks her if she is doing any other exercise.

Why does the instructor need to know this?

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[1]

[Total: 4]

**2 Assam works in a hospital accident and emergency unit.**

**He examines lots of patients every day.**

**(a) Explain how patients are prioritised for emergency treatment.**

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**[2]**

(b) The lists show the condition of some of Assam's patients and the diagnostic tests he uses.

Draw a straight line from each CONDITION to the most appropriate TEST.

One has been done for you.

**CONDITION**

**TEST**

|  |                   |
|--|-------------------|
| footballer with a suspected broken leg                         | ultrasound scan   |
| child with a suspected fractured skull                         | X-ray             |
| man with a suspected heart attack                              | CT scan           |
| unconscious person suspected of drug overdose                  | electrocardiogram |
| pregnant woman worried that her unborn baby has stopped moving | blood test        |

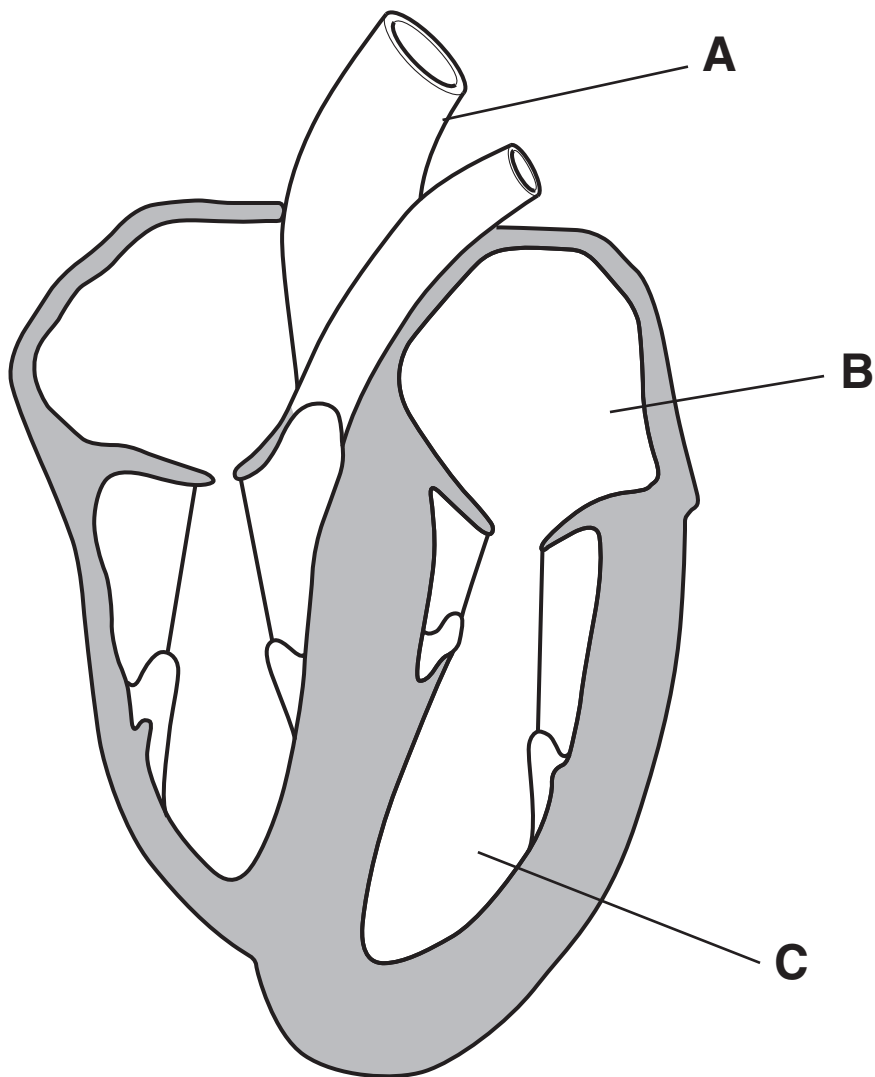
[3]

[Total: 5]

**3 Malik is admitted to hospital with heart problems.**

**Tests on his heart show that both ventricles are not working properly.**

**(a) Look at the diagram of the heart.**



**Which label A, B, or C shows a ventricle?**

**answer \_\_\_\_\_ [1]**



**(b) Malik has to wait for a heart transplant.**

**An artificial heart is offered to Malik after the risks have been assessed.**

**(i) Explain why the risk to Malik has to be assessed before any procedure can be carried out.**

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**[2]**

**(ii) Malik will have the operation at a regional hospital instead of his local hospital.**

**Use your understanding of a national health service to explain why.**

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**[3]**

**[Total: 6]**

**4 Claudia works as a physiotherapist at an athletics club.**

**(a) Describe how she would treat a skeletal-muscular injury.**

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**[2]**

**(b) Claudia starts a new job as a physiotherapist in a hospital.**

**She will now work with a lot of different health practitioners.**

**Give the title and role of TWO other health practitioners who deliver direct health care.**

| <b>title</b> | <b>role</b> |
|--------------|-------------|
| <b>1.</b>    |             |
| <b>2.</b>    |             |

**[4]**

**[Total: 6]**

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**5 Martin has asthma which affects his breathing system.**

**The diagram opposite shows parts of his breathing system.**

**(a) Complete the four labels on the diagram choosing the BEST words from this list.**

**ALVEOLUS**

**BRONCHIOLE**

**BRONCHUS**

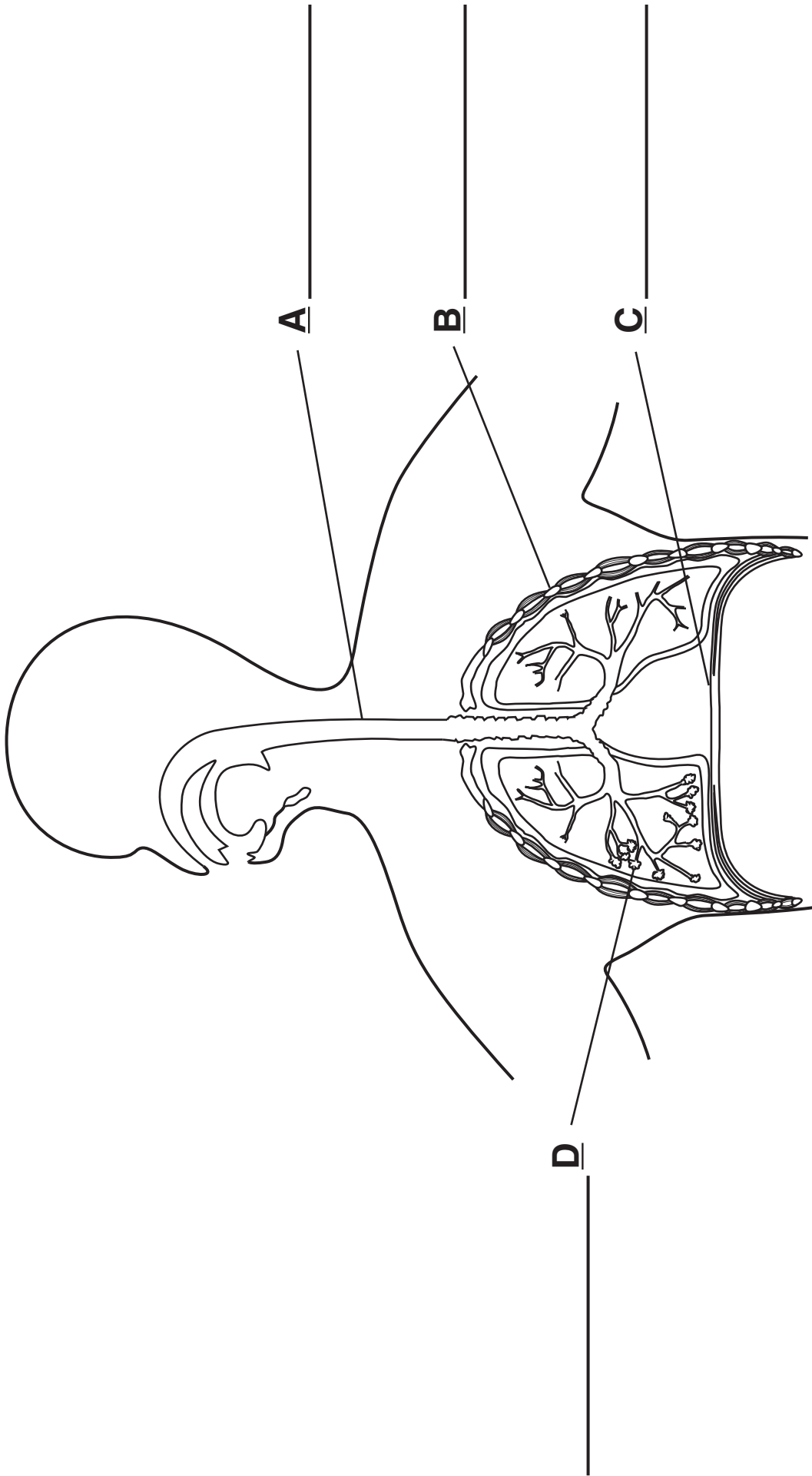
**CLAVICLE**

**DIAPHRAGM**

**INTERCOSTAL MUSCLE**

**RIB**

**TRACHEA**



**(b) Gas exchange takes place through the alveoli.**

**State TWO features of the alveoli that help gas exchange AND explain how each one does this.**

**feature 1 \_\_\_\_\_**

**how this helps gas exchange \_\_\_\_\_**

\_\_\_\_\_

\_\_\_\_\_

**feature 2 \_\_\_\_\_**

**how this helps gas exchange \_\_\_\_\_**

\_\_\_\_\_

\_\_\_\_\_ **[4]**

- (c) During an asthma attack all the tubes leading to the alveoli become smaller.**

**This makes it hard for Martin to breathe.**

**When Martin first developed asthma he tried several different types of medication.**

- (i) Suggest why it was necessary for him to try different treatments.**

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**[1]**

- (ii) Explain why the medication has not cured his asthma.**

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**[2]**

**[Total: 11]**

**6 This headline appeared in the local paper.**

## **Local Woman has healthy stomach removed**



**Sandra's mother is 53.  
Her mother has just developed a serious stomach  
illness.**

**Sandra's doctor tells her that she has inherited the  
same condition.**

- (a) Although Sandra's illness has not started, her  
doctor recommends surgery to remove her  
healthy stomach.  
Suggest why.**

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**[2]**



**(b) After her operation Sandra will need a special diet.**

**Suggest what sort of diet would be appropriate for her.**

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**[2]**

**[Total: 4]**

**END OF QUESTION PAPER**

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