

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

Life Care (Foundation Tier)

TUESDAY 17 JUNE 2008

Morning
 Time: 45 minutes

Candidates answer on the question paper.

Additional materials (enclosed):

None

Calculators may be used.

Additional materials: Pencil
 Ruler (cm/mm)



Candidate
 Forename

Candidate
 Surname

Centre
 Number

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Candidate
 Number

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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.
- 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	12	
2	8	
3	4	
4	12	
TOTAL	36	

This document consists of **11** printed pages and **1** blank page.

2
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Answer **all** the questions.

- 1 Mandi applies to be a special constable in the police. The police have to check that she is fit for the job.



- (a) Mandi has a medical check up.

Draw a straight line from each **condition checked** to the correct **equipment used**.

condition checked	equipment used
temperature	stopwatch
blood pressure	sphygmomanometer
pulse rate	clinical thermometer
	metre rule

[3]

(b) The doctor calculates Mandi's Body Mass Index (BMI).

She measures her mass.

(i) Which other measurement will the doctor need?

Put a **ring** around the correct measurement.

blood pressure

height

pulse rate

temperature

[1]

(ii) Mandi's Body Mass Index is 29.8.

Look at the information in the table.

BMI value	condition
under 20	underweight
20.0–24.9	desirable range
25.0–29.9	overweight
30.0–34.9	obese
over 35	severely obese

What is Mandi's condition?

..... [1]

(c) The doctor has to give Mandi a fitness test.

(i) Before the test, the doctor asks Mandi questions about her **lifestyle**.

Which **three** of the following will the doctor need to know?

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

amount of alcohol consumed

colour of hair

family medical history

favourite music

food preferences

tobacco consumption

[3]

(ii) Describe **one** example of an aerobic fitness test Mandi could do.

.....

.....

.....

.....

.....

.....[2]

(d) Why is it important that the doctor **records** all the information about Mandi?

.....

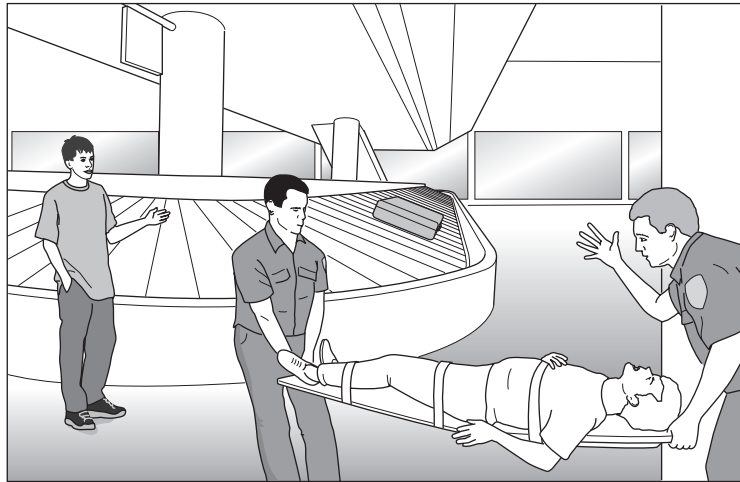
.....

.....[2]

[Total: 12]

2 Marcus returns from a holiday abroad.

He collapses as he waits for his luggage at the airport.



He is rushed into hospital, unconscious.
His friend wants to stay and collect the luggage.

(a) It is important for his friend to go to hospital with Marcus.

Explain why.

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

(b) At the hospital Marcus is treated immediately.

Other people at the hospital have been waiting for a long time.

Explain why Marcus is treated as an emergency before other people.

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

(c) A nurse takes a blood sample.

Here is a list of stages to take a blood sample. They are in the wrong order.

- A** place a sterile dressing on the wound
- B** apply a pressure collar to the upper arm
- C** select a vein
- D** insert the needle attached to the syringe
- E** rub the selected area with an antiseptic wipe
- F** fill the syringe and remove the needle

Put the stages **A**, **B**, **C**, **D**, **E** and **F** in the correct order.

The first one has been done for you.

B					
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[4]

(d) Name **one other** sample the nurse might take for analysis.

.....[1]

[Total: 8]

3 Imran plays cricket.

He strains a muscle in his leg.

The club physiotherapist puts an ice pack over the injured muscle.

Imran rests for a few days.

The physiotherapist then tells Imran he must do exercises to recover.

(a) Describe a set of exercises Imran can carry out to help the injured muscle.

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

(b) The physiotherapist monitors Imran's recovery.

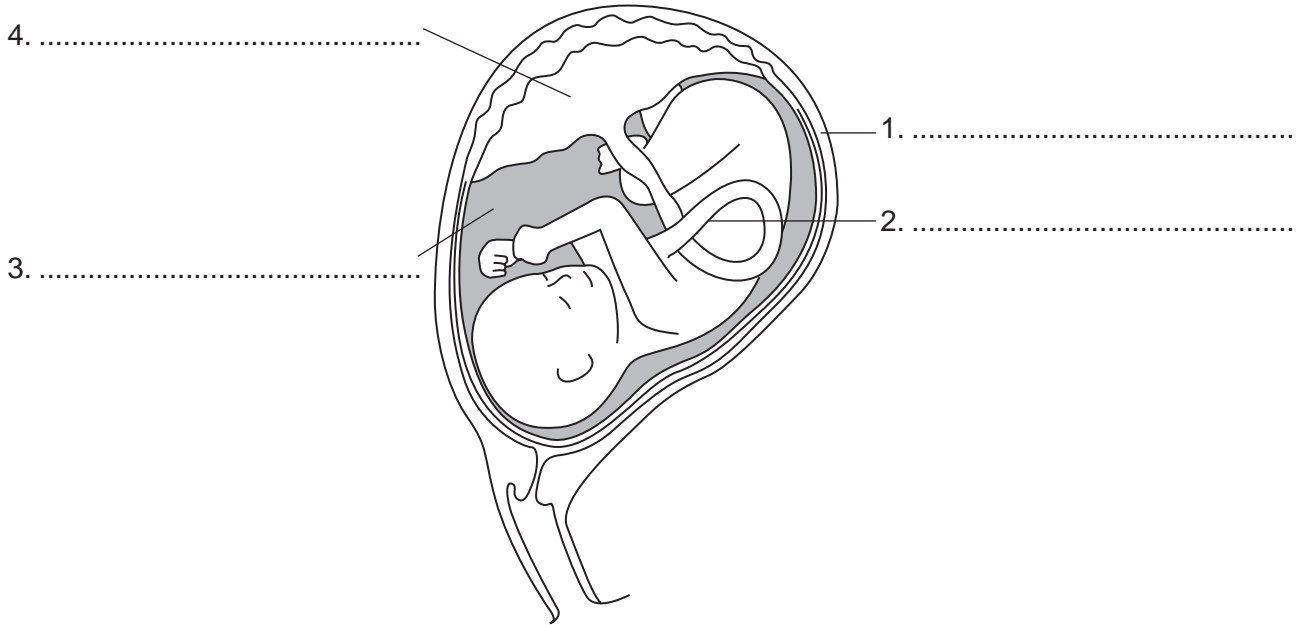
Suggest why.

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

[Total: 4]

4 Fiona is pregnant.

(a) The diagram shows Fiona's reproductive system and the fetus.



Label the diagram.

Choose words from this list.

- amniotic fluid
- cervix
- ovary
- placenta
- umbilical cord
- uterus
- vagina

[4]

(b) Fiona's body changes during pregnancy.

Write down **three** changes that take place.

- 1.....
.....
- 2.....
.....
- 3.....
.....[3]

(c) Fiona regularly visits her midwife throughout the pregnancy.

Write down **two** advantages of these regular visits.

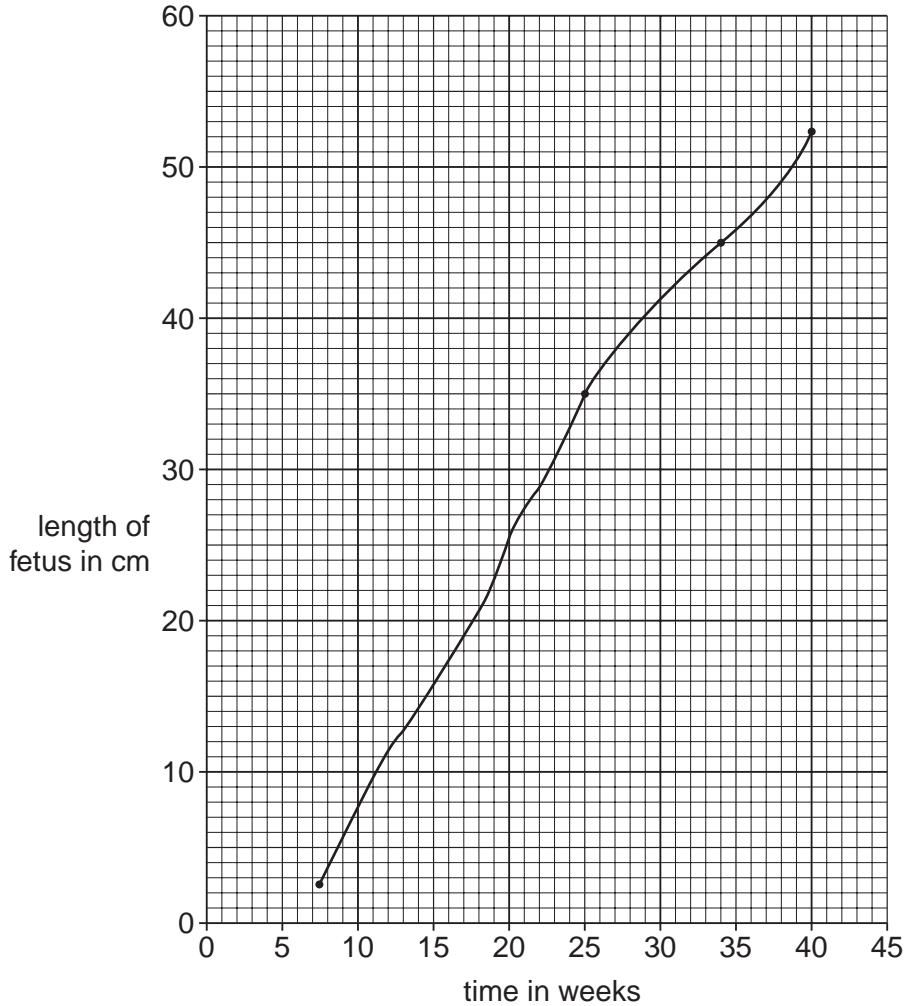
- 1.....
- 2.....[2]

(d) The midwife refers Fiona to the hospital for an ultrasound scan.

The doctor measures the length of the fetus.
It measures 49 cm.

He uses this chart to estimate the age of the fetus.

Chart of average fetal length against age.



Use the chart to calculate how old the fetus is.

age = weeks [1]

(e) The doctor is concerned about the position of the fetus.
Fiona may need an operation to deliver the baby.
The doctor explains all about the operation to Fiona.

Explain why is it necessary for Fiona to know all about the operation.

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

[Total: 12]

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