Rewarding Learning

Centre Number

71	

Candidate Number

General Certificate of Secondary Education
2010–2011

Science: Single Award (Modular)

Staying Alive
Module 1

Foundation Tier

[GSC11]

GSC11

WEDNESDAY 23 FEBRUARY 2011, MORNING

TIME

45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer **all six** questions.

INFORMATION FOR CANDIDATES

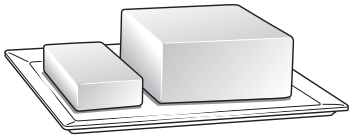
The total mark for this paper is 45.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
Total Marks	

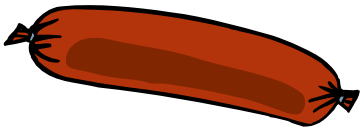
Examiner Only	
Marks	Remark

1 The pictures below show three foods eaten by humans.

Butter



Sausage



Crisps

(a) Complete the sentence below.

Choose from:

energy **insulin** **water** **fat**

These foods all contain a lot of the **FOOD TYPE** _____ which is used as a source of _____ by the body. [2]

(b) A sample of food is tested with Biuret Solution. The solution turned purple in colour.

(i) Which food type must the sample contain?

Choose from:

sugar **protein** **calcium**

_____ [1]

(ii) Name the solution you would use to test for starch.

_____ [1]

(iii) What colour change shows that starch is present?

Circle your answer:

yellow/brown to blue/black

blue to red

brown to yellow [1]

(c) Carol is suffering from anorexia.

(i) Give **one** way this will affect Carol's appearance.

_____ [1]

(ii) Carol's muscles have been damaged by lack of food. Which food type helps build muscles?

Choose from:

fibre **carbohydrate** **protein**

_____ [1]

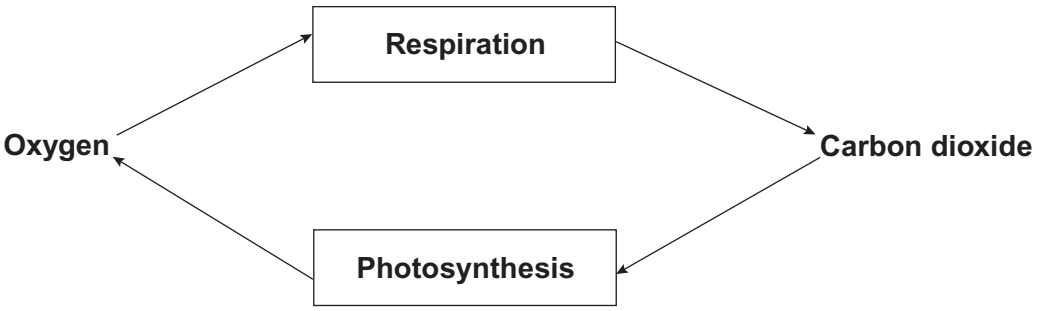
(iii) Suggest **one** reason why teenage girls may suffer from anorexia.

_____ [1]

Examiner Only	
Marks	Remark

Examiner Only	
Marks	Remark

2 **(a)** The diagram below shows the gases taken in and given out during the processes of photosynthesis and respiration.



Use the diagram and your knowledge to answer the questions below.

(i) Name the process which involves plants and animals taking in oxygen.

_____ [1]

(ii) Photosynthesis only takes place during the day. Give the reason for this.

_____ [1]

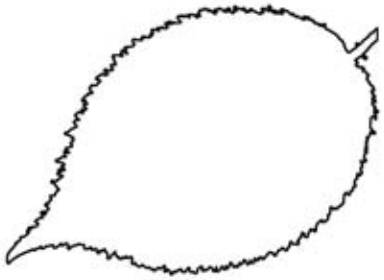
(iii) Apart from carbon dioxide name **one** other substance produced during respiration.

_____ [1]

The picture below shows a leaf that has no chlorophyll (not green) around the edges.

Chlorophyll is necessary to produce starch in the leaf.

(b) On the diagram below shade the area where starch may be present.



[1]

(c) Below are the names of some of the liquids used in testing a leaf for starch and the reasons they are used.

Use lines to link each liquid with the reason why it is used.

LIQUID	REASON
alcohol	to kill the leaf
boiling water	to remove the chlorophyll
	to cool the leaf

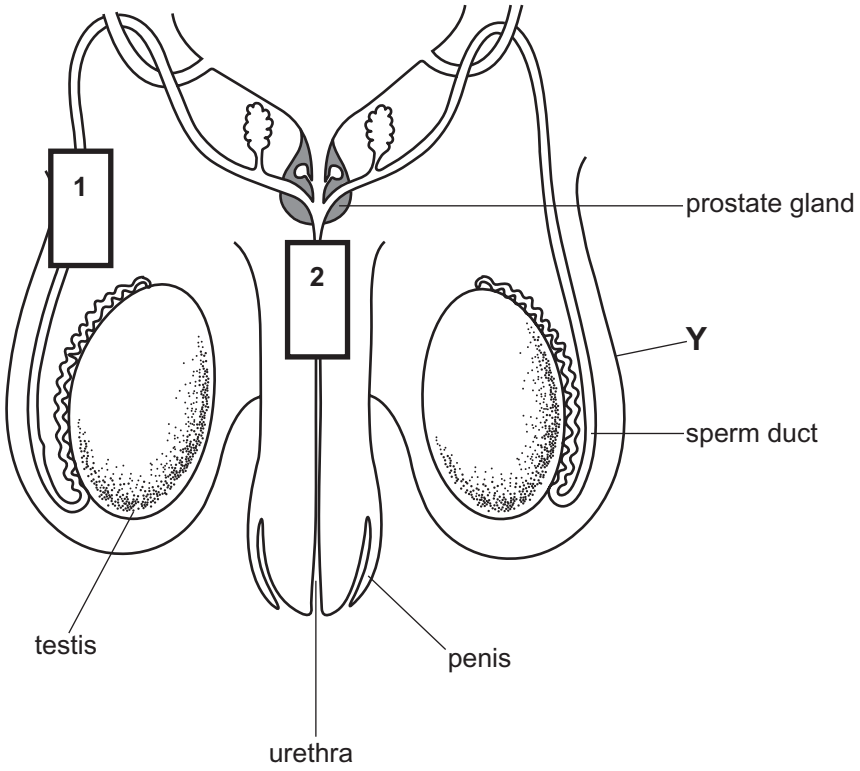
[2]

Examiner Only

Marks	Remark

Examiner Only	
Marks	Remark

3 **(a)** The diagram below shows the male reproductive system.



(i) Name the part labelled **Y**.

_____ [1]

(ii) State the function of the penis in reproduction.

_____ [1]

(iii) On the diagram above draw one arrow in each box (**1 and 2**) to show the direction sperm is travelling in that part of the system. [1]

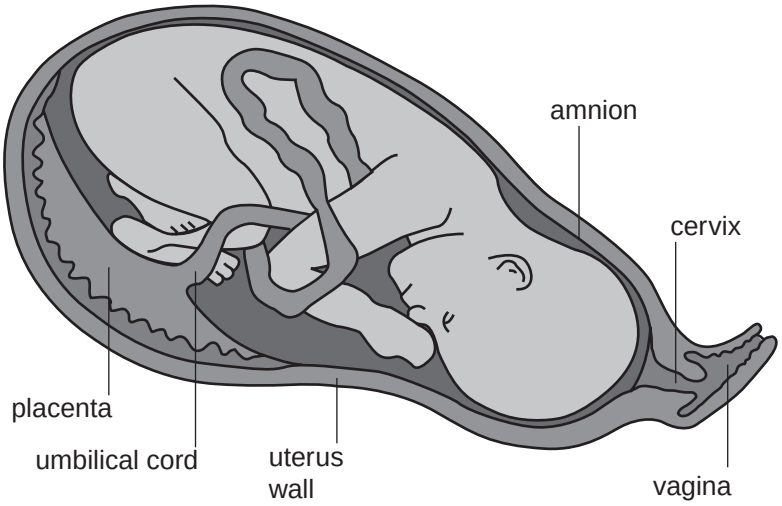
(iv) Name the part that produces sperm.

Choose from:

prostate : testes : sperm duct

_____ [1]

(b) The diagram below shows the baby in the uterus.



Choose labels from the diagram to name the parts whose function is given in the table below.

The first one has been done as an example.

FUNCTION	PART
Contracts during birth	Uterus wall
Baby comes out here	
Food and oxygen removed from mother's blood	
Contains fluid for protection	
Dilates during birth	

[4]

Examiner Only

Marks	Remark

Examiner Only	
Marks	Remark

4 Six examples of actions involving the nervous system are listed below.

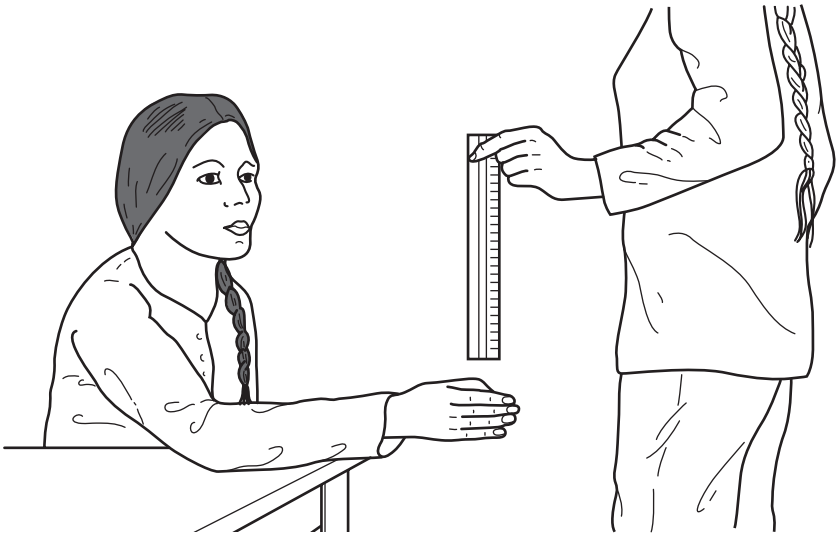
(a) Put a tick beside each example that is a **voluntary** action.
One has been done for you.

blinking _____ heading a ball _____

reading ✔ running _____

knee jerk _____ answering a phone _____ [2]

(b) Four pupils (A, B, C, and D) decided to compare their reactions. One pupil held the ruler as shown in the diagram below and the pupil sitting caught it as it fell. Each pupil had three attempts.



Their results are shown below.

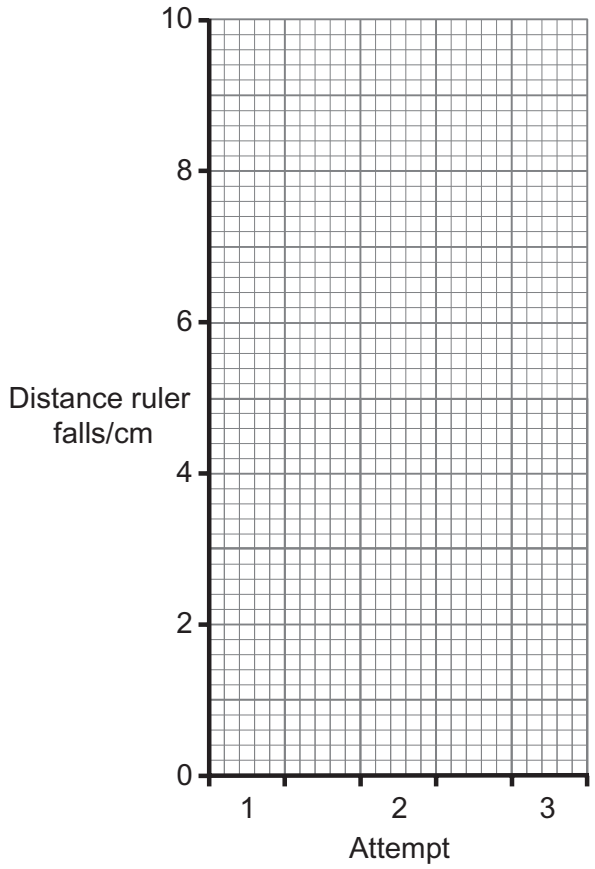
Attempt	Distance ruler falls for each pupil/cm			
	A	B	C	D
1	4	3	4	3
2	3	10	4	2
3	2	2	1	1
Average distance/ cm	3	5	3	

(i) Complete the table above by calculating the average distance for pupil D. [1]

(ii) On average, which pupil (A, B, C or D) had the fastest reaction?

_____ [1]

(iii) Draw a bar chart showing the results for **pupil B** on the grid below.



[2]

(iv) How do pupil B's results show the importance of doing an experiment more than once?

_____

_____ [2]

Examiner Only

Marks	Remark

Examiner Only	
Marks	Remark

5 **(a)** **(i)** Describe the roles the pancreas and the liver play in keeping blood glucose levels constant.

_____

_____

_____

_____ [3]

(ii) Name the condition which results in the loss of control of blood glucose levels.

_____ [1]

(b) Cystic fibrosis is an inherited disease.

The gene which causes it (f), is recessive to the normal gene (F).

Complete the genetic diagram below to show how two parents who do not suffer from cystic fibrosis can have a child who does.

		f
F		

[3]

(c) Scientists are trying to clone lungs which would replace lungs damaged by cystic fibrosis. Some people do not agree with cloning. Suggest **one** reason for this.

_____ [1]

Examiner Only

Marks	Remark

6 **(a)** The table below shows the cost of treating patients for some medical conditions.

Condition	Cost/£
Diabetes type 1	4000
Knee cartilage operation	2000
Heart attack	20000
Cystic fibrosis	5000

(i) Suggest **two** ways that some of the money is used to treat people with diabetes type 1.

_____

_____ [2]

(ii) Suggest **three** reasons why a knee cartilage condition is the cheapest to treat.

_____

_____

_____ [3]

(b) Apart from the cost of treating heart attacks suggest **two** other ways that they can affect society.

_____

_____ [2]

THIS IS THE END OF THE QUESTION PAPER