

Centre Number			
71			
Can	didate Number		

General Certificate of Secondary Education 2009–2010

Science: Double Award (Modular)

Living Organisms and the Processes of Life End of Module Test Foundation Tier



A

[GDA01]

THURSDAY 20 MAY 2010, 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 twelve** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 50.

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				
7				
8				
9				
10				
11				
12				

Total	
Marks	
171661143	



1 Complete the table below about food types.

Food type	Example of source	Test	
Sugar	Cakes		
	Citrus fruits	DCPIP	
Protein		Biuret	

[3]

	er Only Remark

Examiner Only

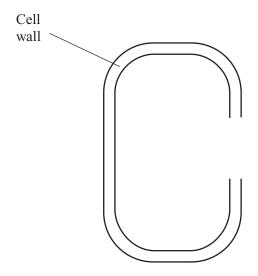
2 Plants take up water and minerals using their root hair cells.

Examiner Only

Marks Remark

(a) The drawing below shows a partially completed root hair cell.

Complete the drawing by adding the remaining part of the cell wall and adding and labelling the vacuole and nucleus.



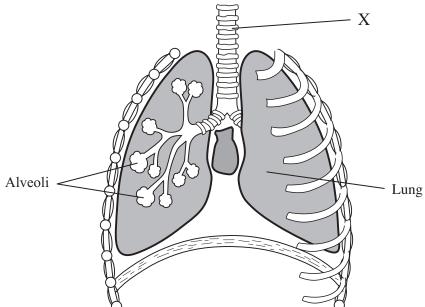
[3]

(b) Complete the table about minerals used by plants.

Mineral	Function		
	Cell wall formation		
Magnesium			
Nitrogen (nitrate)			

[3]

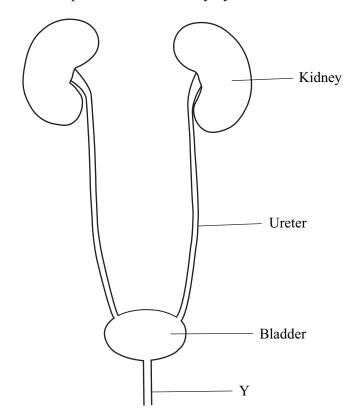
The diagram shows part of the respiratory system. 3



Examiner Only

(a)		by Stage 4 revision GCSE Science Single and Double Award by Bob McDuell, Keith Hirst and Graham Booth, published by Stanley Thornes, 1998, ISBN 0748736670 me the part labelled X.
		[1]
(b)		the diagram, draw an arrow on the diaphragm to show the direction loves during inhalation. [1]
(c)	(i)	Name the substance in cigarette smoke that causes lung cancer. [1]
	(ii)	Describe and explain the effect that carbon monoxide in cigarette smoke has on the body.
		[2]

4 The diagram shows part of the excretory system.



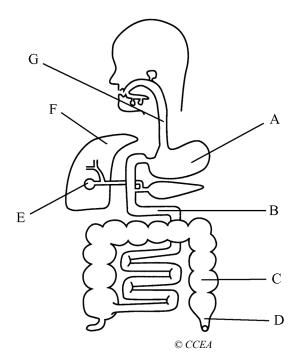
(a) (i) Name part Y.

_____[1]

- (ii) On the diagram, draw in the sphincter muscle. [1]
- **(b)** What is meant by the term **osmoregulation**?

_____[1]

5 The diagram shows the digestive system.



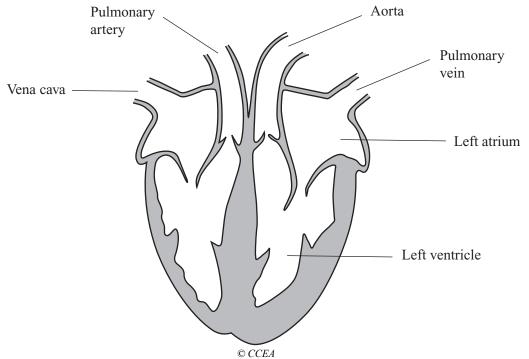
Complete the table by adding the letter of the structure to match the process.

Process	Structure (give letter)
Protein digestion begins	
Water is reabsorbed	
Carbohydrate, fat and protein digestion all occur	
Bile is stored	

[4]



6 The heart pumps blood around the body.



- (a) (i) Add arrows to the diagram to show the flow of blood through the heart. [2]
 - (ii) Name **one** blood vessel shown on the diagram that carries deoxygenated blood.

_____[1]

(b) What is the function of the plasma?

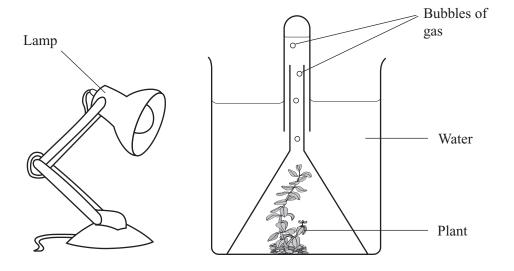
______[1]

7 This apparatus was set up to measure the rate of photosynthesis in different light intensities.

Examiner Only

Marks Remark

The rate of photosynthesis was measured by counting the number of bubbles of gas leaving the plant in a given time.



(a) Suggest one way of varying the light intensity in this experiment.

_____[1]

(b) Name the gas present in the bubbles.

[1]

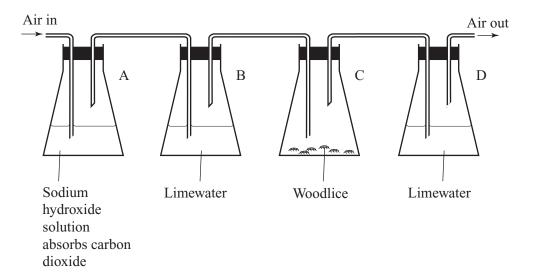
(c) Suggest a more accurate method of measuring the rate of photosynthesis than counting the bubbles of gas released in a given time.

[2]

(d) Apart from light intensity, name **one** other factor that will affect the rate of photosynthesis in the water plant.

_____[1]

8 The diagram shows an investigation using woodlice.



Limewater changes from clear to cloudy with an increase in the carbon dioxide level.

(a) Name the process being investigated.

[1]

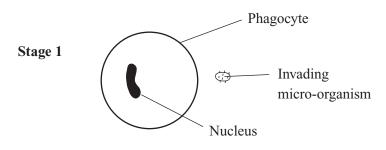
(b) What is the purpose of flask B?

_____[1]

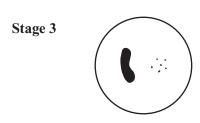
(c) What colour would you expect the limewater in flask D to be at the end of the experiment?

_____[1]

9 The diagram shows one way in which the body defends itself against microorganisms.







(a) Suggest what type of blood cell is a phagocyte.

_____[1]

(b) Describe what is happening at:

Stage 2

Stage 3 ______ [2]

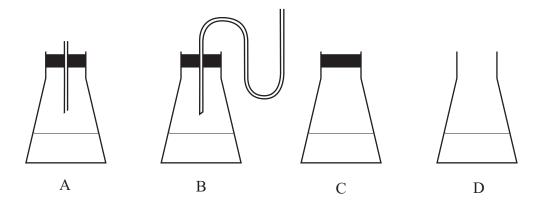
(c) Describe another way in which the body defends itself once microorganisms have entered the bloodstream.

______[1

Examiner Only

Marks Remark

All flasks contained sterile broth at the start of the experiment. Sterile broth is clear.



The apparatus was left for one week at room temperature.

(a) Complete the results table below by placing a tick (✔) if you would expect the broth to be contaminated with micro-organisms after a week, or an ✗ if you would expect the broth to be uncontaminated.

Flask	Contaminated/uncontaminated after one week
A	
В	
С	
D	

[3]

(b) Name the theory that the results of Pasteur's experiment disproved.

[1]

11 The diagram shows a potato cylinder that has just been put into a beaker of water.

Examiner Only			
Marks	Remark		

[4]

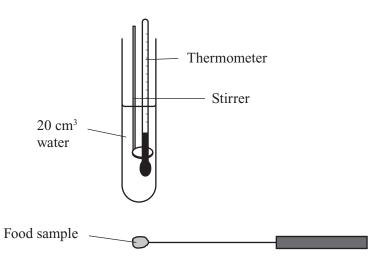
Water	_		
			 Potato cylinder

The cylinder was left in the water for 24 hours.

Description: _		 	
Explanation:			
Emplanation.			

12 The energy value of foods can be compared using the apparatus shown in the diagram.





(a)	Using the apparatus and any additional materials, describe how you
	would compare the energy values of equal masses of biscuit and bacon.

[4]
 [4]

(b)	How would you expect the results for the biscuit and the bacon to differ?	
		[1]

THIS IS THE END OF THE QUESTION PAPER

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