



Centre Number

71

Candidate 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



1 Complete the table below about food types.

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

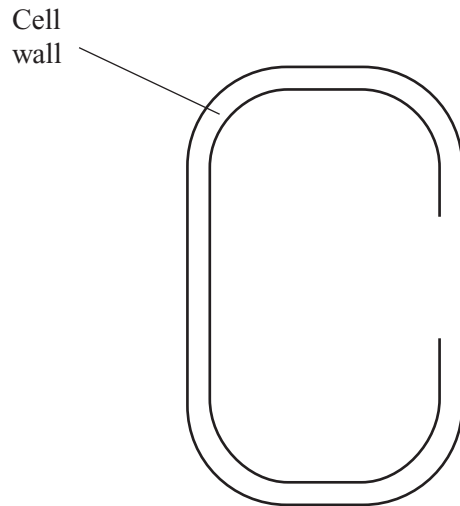
[3]

Examiner Only	
Marks	Remark

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

(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)	

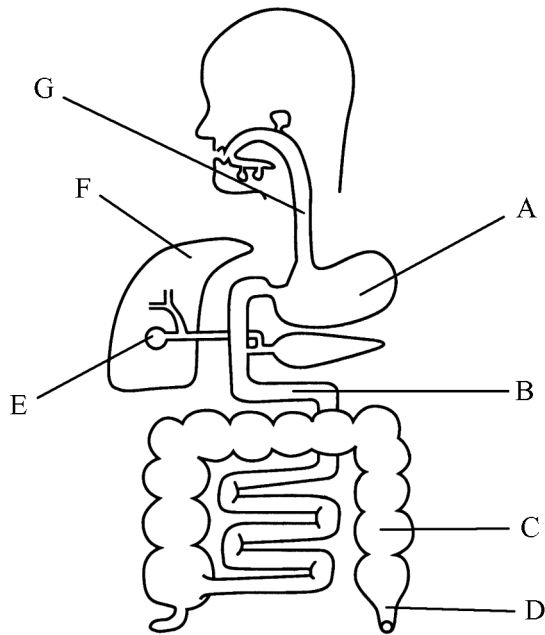
[3]

Examiner Only	
Marks	Remark





5 The diagram shows the digestive system.



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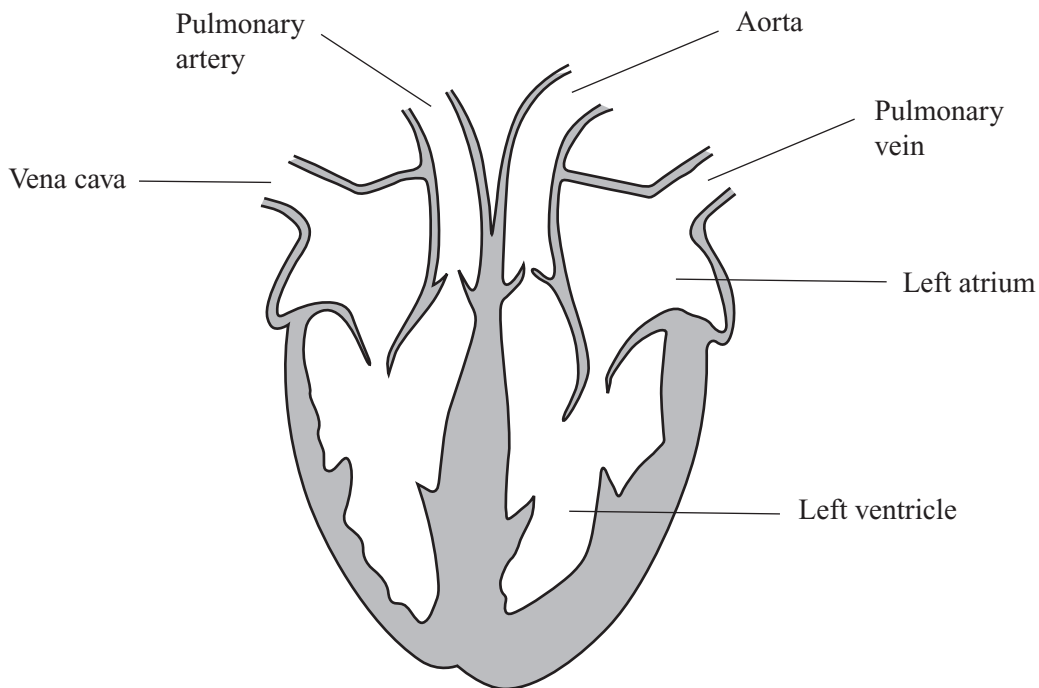
Complete the table by adding the letter of the structure to match the process.

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

[4]

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Marks	Remark

6 The heart pumps blood around the body.



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(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]

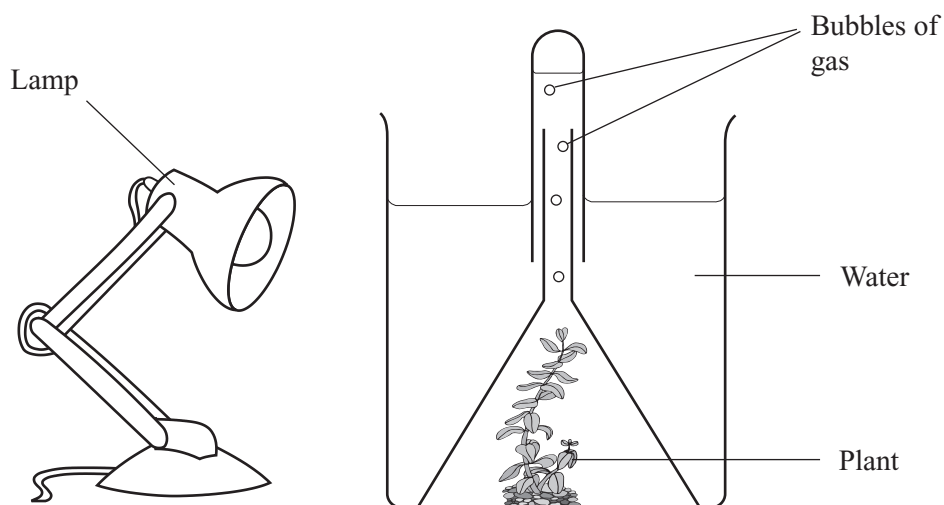
(b) What is the function of the plasma?

\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

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

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]

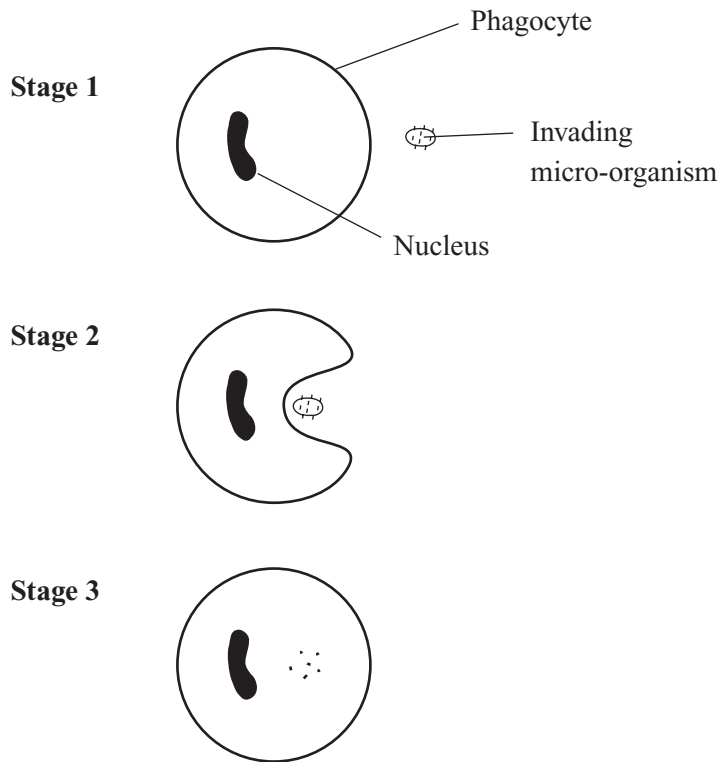
Examiner Only

Marks Remark





- 9 The diagram shows one way in which the body defends itself against micro-organisms.



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

\_\_\_\_\_ [1]

- (b) Describe what is happening at:

Stage 2 \_\_\_\_\_

Stage 3 \_\_\_\_\_ [2]

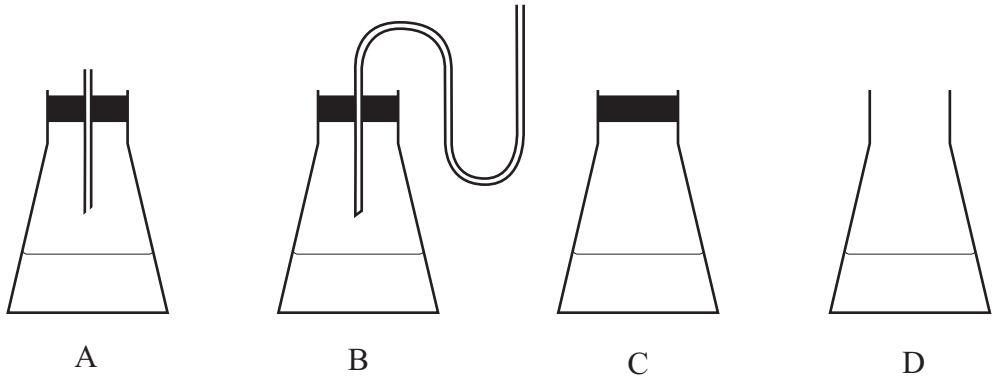
- (c) Describe another way in which the body defends itself once micro-organisms have entered the bloodstream.

\_\_\_\_\_ [1]

Examiner Only	
Marks	Remark

10 The diagram shows an experiment similar to one carried out by Pasteur.

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	
B	
C	
D	

[3]

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

\_\_\_\_\_ [1]

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Marks	Remark





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**THIS IS THE END OF THE QUESTION PAPER**

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