



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

**FOOD AND NUTRITION**

**0648/01**

Paper 1 Theory

**October/November 2009**

**2 hours**

Candidates answer on the Question Paper.

No Additional Materials are required.

\* 2 8 7 7 3 9 5 1 5 8 \*

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

**DO NOT WRITE IN ANY BARCODES.**

**Section A**

Answer **all** questions.

You are advised to spend no longer than 45 minutes on Section A.

**Section B**

Answer **all** questions.

**Section C**

Answer **either** Question 8 **or** 9.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

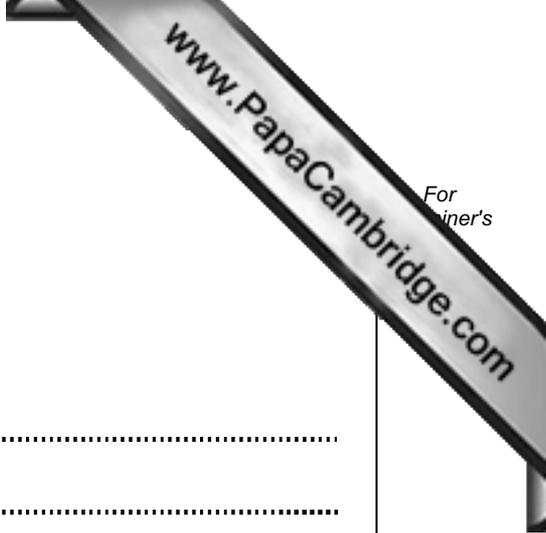
For Examiner's Use	
Section A	
Section B	
Section C	
Total	

This document consists of **14** printed pages and **2** blank pages.



Section A

Answer **all** questions.



1 (a) Name the elements which combine to form protein.

- 1 .....
- 2 .....
- 3 .....
- 4 .....
- 5 .....
- 6 ..... [3]

(b) State **three** functions of protein.

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

(c) Define High Biological Value (HBV) protein.

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

(d) Give **four** examples of HBV protein.

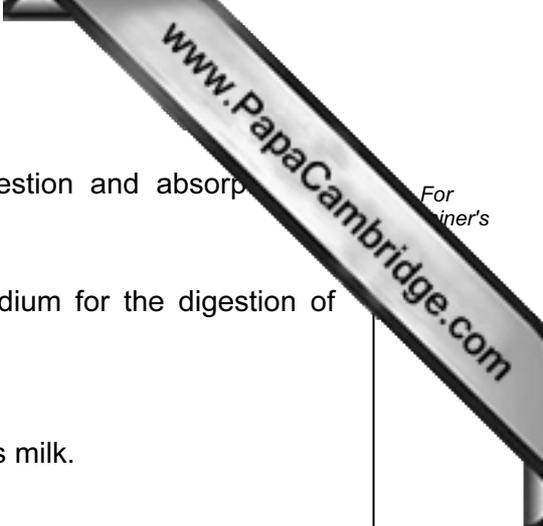
- 1 .....
- 2 .....
- 3 .....
- 4 ..... [2]

(e) Define Low Biological Value (LBV) protein.

- ..... [1]

(f) Give **four** examples of LBV protein.

- 1 .....
- 2 .....
- 3 .....
- 4 ..... [2]



(g) Complete the following sentences which describe the digestion and absorption of protein.

In the stomach, \_\_\_\_\_ acid creates a suitable medium for the digestion of protein to begin. There are two enzymes in the stomach.

Pepsin converts protein to \_\_\_\_\_ and \_\_\_\_\_ clots milk.

In the duodenum, the enzyme \_\_\_\_\_, produced by the \_\_\_\_\_ continues to convert protein to \_\_\_\_\_. In the ileum, the enzyme \_\_\_\_\_ from \_\_\_\_\_ juice, completes the breakdown of protein to \_\_\_\_\_.

Absorption takes place in the ileum. Finger-like projections, known as \_\_\_\_\_ provide a large surface area. The end products of protein digestion are absorbed into \_\_\_\_\_. They dissolve in \_\_\_\_\_ and are carried around the body. [6]

(h) Explain how the body deals with excess protein.

.....  
.....  
.....  
.....  
.....  
..... [3]

2 (a) State **three** functions of calcium.

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

(b) Name **four** sources of calcium.

- 1 ..... 2 .....
- 3 ..... 4 ..... [2]

(c) Name the deficiency disease which results from a lack of calcium.

..... [1]

3 (a) State **two** functions of vitamin D.

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

(b) Name **four** sources of vitamin D.

- 1 ..... 2 .....
- 3 ..... 4 ..... [2]

(c) The body makes vitamin D when it is exposed to the ultra-violet rays of the sun.

Identify **two** groups of people who will not be able to make vitamin D in this way. In each case, give an explanation.

Group 1 .....

Explanation 1 .....

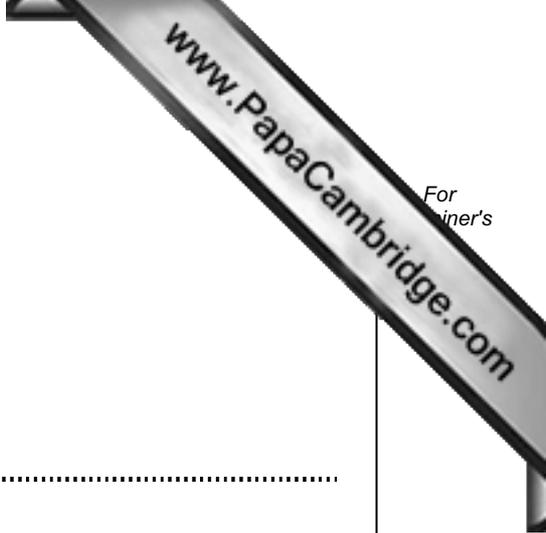
Group 2 .....

Explanation 2 ..... [2]



**Section B**

Answer **all** questions.



5 (a) Name **six** nutrients found in red meat.

1 ..... 2 .....  
3 ..... 4 .....  
5 ..... 6 ..... [3]

(b) List **four** reasons why meat may be tough.

1 ..... 2 .....  
3 ..... 4 ..... [2]

(c) Give **four** ways of tenderising meat before cooking.

1 .....  
2 .....  
3 .....  
4 ..... [2]

(d) Explain how meat becomes tender during cooking.

.....  
.....  
.....  
.....  
.....  
..... [3]













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