



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
NUMBER

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FOOD AND NUTRITION

0648/01

Paper 1 Theory

October/November 2009

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

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.

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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

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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.

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

(d) Give advice on the safe use of electrical equipment in the kitchen.

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[4]

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