



**Cambridge Assessment International Education**  
Cambridge International General Certificate of Secondary Education

CANDIDATE  
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**FOOD AND NUTRITION**

**0648/12**

Paper 1 Theory

**October/November 2019**

**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 an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, 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 10(a) **or** 10(b).

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.

This document consists of **12** printed pages.

**Section A**

Answer **all** questions.

1 (a) Explain the term *metabolism*.

.....  
.....[1]

(b) Explain the term *basal metabolism*.

.....  
.....[1]

(c) Metabolism is controlled by thyroxine.

Name the mineral which is used to make thyroxine.

.....[1]

[Total: 3]

2 Foods containing protein are classified by their biological value.

(a) Explain the term *high biological value protein*.

.....[1]

(b) Explain the term *low biological value protein*.

.....[1]

(c) Name **four** different foods which are good sources of high biological value (HBV) protein.

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

[Total: 6]

3 Disaccharides are sugars.

(a) Complete the equations to show the composition of the named disaccharides.

(i) sucrose = 1 unit of glucose + 1 unit of ..... [1]

(ii) lactose = 1 unit of glucose + 1 unit of ..... [1]

(b) Name **two** enzymes involved in the digestion of sugars.

1 .....

2 ..... [2]

(c) It is recommended that people reduce their intake of sugar.

Name **two** health problems which might be caused by too high an intake of sugar.

1 .....

2 ..... [2]

(d) State **five** ways of reducing sugar in the diet.

1 .....

2 .....

3 .....

4 .....

5 ..... [5]

(e) State **three** effects of dry heat on sugar.

1 .....

2 .....

3 ..... [3]

[Total: 14]

4 State **five** different ways of increasing non-starch polysaccharide (NSP)/dietary fibre in the diet.

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

5 Complete the table to give **one** disease caused by a deficiency of each of the named vitamins.

| vitamin                                 | disease |
|---|---------|
| vitamin C / ascorbic acid               | scurvy  |
| vitamin A / retinol                     |         |
| vitamin B <sub>1</sub> / thiamin        |         |
| vitamin B <sub>3</sub> / nicotinic acid |         |
| vitamin D / cholecalciferol             |         |

[4]

6 Vegetables form an important part of the diet.

(a) Give **five** points to consider when choosing green leafy vegetables.

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

(b) Explain how to store green leafy vegetables in order to retain their nutritional value.

.....  
.....  
.....  
.....

[3]

[Total: 8]

**Section B**

Answer **all** questions.

7 The following ingredients can be used to make a Swiss roll:

- 3 eggs
- 75 g caster sugar
- 75 g plain flour

(a) Name the method used to make the Swiss roll.

.....[1]

(b) Describe the method of making the Swiss roll mixture.

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.....  
.....[5]

(c) Suggest **two** different ingredients which could be used to vary the flavour of the Swiss roll mixture.

1 .....

2 .....

[2]

(d) Suggest **three** reasons why the finished Swiss roll might have a close texture.

1 .....

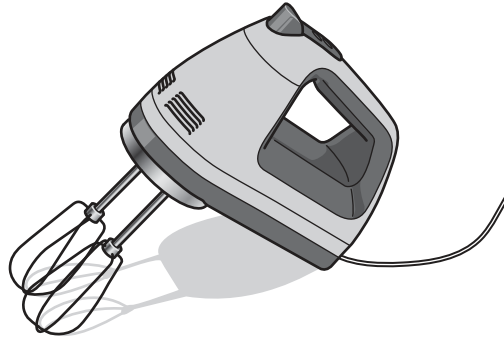
2 .....

3 .....

[3]

(e) An electric hand mixer can be used to make a Swiss roll to save time and energy.

Give **six** different factors to consider when choosing a new electric hand mixer.



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

(f) State **five** safety points to prevent accidents when using an electric hand mixer.

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

(g) Describe the first aid procedure for a person who has just received an electric shock.

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.....[3]

[Total: 25]

8 Microorganisms cause food spoilage.

(a) Identify **three** conditions needed for the growth of microorganisms.

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

(b) Some microorganisms can be used to make yoghurt from milk.

Give a reason for the following when making yoghurt:

- (i) sterilising all equipment;  
..... [1]
- (ii) after heating the milk, allow to cool and add *Lactobacillus bulgaricus* and *Streptococcus thermophilus*;  
..... [1]
- (iii) adding a stabiliser to the yoghurt.  
..... [1]

(c) Give **two** different reasons for each of the following pieces of information found on the label of a pot of yoghurt:

- (i) a list of ingredients;
  - 1 .....
  - 2 ..... [2]
- (ii) storage instructions;
  - 1 .....
  - 2 ..... [2]
- (iii) weight of product.
  - 1 .....
  - 2 ..... [2]

[Total: 12]



9 Identify and explain **eight** reasons why convenience foods are popular.

1 .....

.....

2 .....

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3 .....

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4 .....

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5 .....

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6 .....

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7 .....

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8 .....

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[8]

**Section C**

Answer **either** Question 10(a) **or** 10(b).

**10 (a)** Compare and contrast grilling and stewing as methods of cooking. [15]

**OR**

**(b)** Discuss the role that different religions play in influencing food choices. [15]

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