



**GCE AS/A level**

1111/02

**DESIGN AND TECHNOLOGY  
FOOD TECHNOLOGY DT1**

P.M. TUESDAY, 22 May 2012

2 hours

#### **ADDITIONAL MATERIALS**

In addition to this examination paper, you will need a 12 page answer book.

#### **INSTRUCTIONS TO CANDIDATES**

Use black ink or black ball-point pen.

Answer **five** questions from Section A.

Answer **one** question from Section B.

#### **INFORMATION FOR CANDIDATES**

When and where appropriate, answers should be amplified and illustrated with sketches and/or diagrams.

**Section A** is designed to demonstrate your **breadth** of knowledge in Food Technology.

Your **Section B** answer should be substantial and demonstrate your **depth** of knowledge in Food Technology.

You are reminded that assessment will take into account the quality of written communication used in answers that involve extended writing (**Section B**).

**SECTION A**

Answer **five** questions from this section.

This section is designed to demonstrate your **breadth** of knowledge in Food Technology.

*Each question carries 8 marks.*

1. (a) Describe **two** key properties of sugar and **two** key properties of fats. 2 × [2]  
(b) Identify a specific product where **one** of these materials has been used and explain why the material was chosen. [4]
  
2. *Quantitative* and *qualitative* testing are important aspects to consider when selecting a material or materials for a specific food product.  
Explain what you understand by **each** of these terms. 2 × [4]
  
3. (a) Outline the main functions of protein within the diet. [3]  
(b) Explain what you understand by the term 'biological value'. [5]
  
4. A production plan consists of important stages in the manufacture of a food product.  
Describe **four** main elements of a production plan for a food product of your choice. 4 × [2]
  
5. *Rotary moulding*, *sheeting* and *extrusion* are all methods of forming or shaping foods.  
Describe in detail **two** of these methods. 2 × [4]

6. Design specifications are used by designers to identify key criteria in the development of new food products.
- (a) Describe the important features of a design specification. [2]
- (b) For a named food product, list **three** primary specification criteria and **three** secondary specification criteria.  $2 \times [3]$
7. Describe the features and benefits of the following Intellectual Property rights to the owner.
- (a) Copyright. [4]
- (b) Registered Trade Mark. [4]
8. The design and manufacture of food products can involve the use of ICT.
- Illustrate how ICT is used for research, modelling, prototyping and manufacturing.  $4 \times [2]$

**SECTION B**

*Answer **one** question from this section.*

*Your answer should be substantial and show the **depth** of your knowledge in Food Technology.*

*Each question carries 30 marks.*

- 9.** *Design can be described as a process of change and increasingly has to meet environmental and technological challenges.*

In relation to a food product or range of food products you have used, discuss how the food technologist has addressed environmental and technological challenges. [30]

- 10.** Developments in modern food materials have influenced the design of food products with benefits for the designer, manufacturer and consumer.

Discuss these developments and benefits in relation to named food products. [30]

- 11.** With reference to a particular food product or products, describe the process of quality control and discuss its importance to the manufacturer, consumer and the environment. [30]