



**GCE A level**

1113/02

**DESIGN AND TECHNOLOGY – DT3**  
**Food Technology**

A.M. TUESDAY, 4 June 2013

2½ 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 **three** questions from Section A.

Answer **three** questions from Section B.

Answer **two** questions from Section C.

**INFORMATION FOR CANDIDATES**

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

**Section A** and **Section B** answers are designed to demonstrate your **breadth** of knowledge in Food Technology.

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

Candidates are reminded of the necessity for good English and orderly presentation in their answers.

**SECTION A**

*Answer **three** questions from this section.*

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

***Each question carries 8 marks.***

1. Outline the factors that determine the price a food product is sold for in the market place. [8]
  
2. (a) Explain the reasons why a food manufacturer must identify any risks associated with the use of a particular named food product. [4]  
(b) Identify **four** risks associated with the use of specific named food products. 4 × [1]
  
3. The control of oxygen is sometimes used to prolong shelf-life.  
(a) Explain why oxygen can affect the shelf-life of particular foods. [4]  
(b) Describe **two** methods of food preservation which make use of the control of oxygen. 2 × [2]
  
4. Describe how you would analyse an existing food product as part of researching market products prior to embarking on a design task. [8]
  
5. 'Just in Time' is a manufacturing system frequently used in food production.  
(a) Explain what you understand by the term. [2]  
(b) Outline the advantages this system brings to the food manufacturer. [6]

**SECTION B**

*Answer **three** questions from this section.*

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

*Each question carries 8 marks.*

6. Describe how the promotion of a food product will vary depending on the anticipated consumer demand for that food product. [8]
7. Outline the information you would expect a food technologist to present in the detail designing stage of a prototype food product. [8]
8. (a) State the main functions in the body of **one** named vitamin and outline the consequences of a deficiency. [4]  
(b) Explain the reasons for the fortification of some food products. [4]
9. (a) Name a specific SMART food material. [1]  
(b) Describe **two** of its main properties.  $2 \times [2]$   
(c) Explain how these properties have been exploited by food technologists. [3]
10. (a) Name **two** forms of production management systems.  $2 \times [1]$   
(b) Describe **one** such system in detail. [6]

**SECTION C**

*Answer **two** questions from this section.*

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

*Each question carries 26 marks.*

- 11.** A thorough knowledge and understanding of the properties of food materials has a key role to play in the design of successful food products.

Identify **two** specific food materials and explain in detail how their primary properties make them suitable to the function of a specific food product or group of food products. [26]

- 12.** Compare the work of **two** chefs, cooks or restaurateurs you are familiar with, indicating how they have developed their design style and how this style has influenced the development of food products on the market and people's food choices. [26]

- 13.** Sustain: the alliance for better food and farming estimates that between 20 and 30 per cent of global warming caused by human activity is contributed by our food and agricultural systems.

Suggest ways that food producers, manufacturers and consumers can make a significant contribution towards increased sustainability. [26]

- 14.** Many people are basing some of their food choices on the health benefits imparted by particular food products.

Identify specific food products on the market claiming to have added health benefits and evaluate the extent to which these foods may improve health. [26]

- 15.** Evaluate the part that CAD and CAM have played in the development of high volume food manufacturing. [26]