



**GCE A Level**

1113/02

**DESIGN & TECHNOLOGY  
FOOD TECHNOLOGY DT3**

P.M. WEDNESDAY, 13 June 2012

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. (a) Fully describe the product life cycle using diagrams where relevant. [6]  
(b) Draw a labelled diagram demonstrating the life cycle of an incrementally improved food product. [2]
  
2. The Food Standards Agency estimates that 5.5 million people contract food poisoning in Britain every year.  
(a) Outline the main sources of infection for a named type of food poisoning. [3]  
(b) Describe measures taken by food manufacturers to prevent cross-contamination for the type of food poisoning you have chosen. [5]
  
3. (a) Explain what you understand by the term target audience in relation to a food product. [2]  
(b) Outline **three** reasons why researching a target audience plays such an important role in the design of food products. [6]
  
4. The materials chosen by food technologists for the manufacture of food products often have a significant impact on sales.  
(a) Name and briefly describe **two** specific food products that have benefited from the use of smart materials.  $2 \times [1]$   
(b) Describe the characteristics of **one** smart material used in either food product. [6]
  
5. Canning, Irradiation and Ultra Heat Treatment (UHT) are methods of preserving foods.  
(a) Describe **one** of these processes for a named food product. [3]  
(b) Outline the effect of this treatment on shelf-life and the sensory and nutritional properties of that named food product. [5]

**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. (a) Name **two** forms of product management systems that could be used in school when tracking the development of a food product. [2]
- (b) Explain **one** such system in detail. [6]
7. Explain, with examples, the advantages and disadvantages of one-off production in the food industry to **both** the manufacturer **and** the consumer. [8]
8. Rights granted by the Intellectual Property Office can protect the outward appearance of a food product or its packaging.
- (a) Name the form of Intellectual Property that affords this protection. [2]
- (b) Describe the essential elements of this Intellectual Property. [6]
9. (a) Explain the importance of on-going evaluation when designing. [4]
- (b) Evaluate the impact that the design specification has on this process. [4]
10. When food products are manufactured in volume, explain the part played by:
- (a) Quality Control; [4]
- (b) Quality Assurance. [4]

**SECTION C**

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

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

*Each question carries 26 marks.*

- 11.** Each chef, restaurateur and food writer has their own food style and values. Contrast the food style and values of any **two** chefs, food writers or restaurateurs of your choice and discuss their influence on consumer demand. [26]
  
- 12.** Food technologists need a detailed knowledge and understanding of the materials they select to make successful food products.  
  
Describe the particular purpose, characteristics and properties of **two** food materials that have been selected for use in named food products and explain what features make them appropriate for use. [26]
  
- 13.** Discuss the value judgements that are involved in the design of some food products, particularly relating to economic, aesthetic and environmental considerations. [26]
  
- 14.** Evaluate the advantages and disadvantages of the use of Computer Aided Manufacture (CAM) in modern high volume food production. [26]
  
- 15.** Discuss how the needs and demands of consumers of food products have evolved and how food technologists and manufacturers have responded to these changes. [26]