

351/02

**DESIGN AND TECHNOLOGY AS**

**FOOD TECHNOLOGY DT1**

A.M. TUESDAY, 6 June 2006

(2½ Hours)

**ADDITIONAL MATERIALS**

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

**INSTRUCTIONS TO CANDIDATES**

Answer **six** 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** answers should be no more than half a page. This section 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 of the necessity for good English and orderly presentation in your answers.

## SECTION A

Answer **six** questions from this section.

The maximum length of each answer should be no more than about 150 words.  
This section is designed to demonstrate your **breadth** of knowledge in Food Technology.

*Each question carries 8 marks.*

1. The following food materials have particular characteristics or properties which make them suitable for use in different food products.

*Sugar      Strong plain flour      Eggs      Gelatine      Baking powder*

Select **four** of the above food materials and, for **each**, explain how **one** important characteristic or property is used in a named food product. 4 × [2]

2. Explain how a product designer uses CAD in developing new food products. [8]
3. (a) Explain the term *cross-contamination*. [2]  
(b) Describe the procedures used by food manufacturers to prevent *cross-contamination*. [6]
4. Food materials are combined in specific proportions and by specific manufacturing processes in order to produce successful cake and pastry products.
- (a) State the standard proportions of food materials you would use in making a *specific named* type of cake **or** pastry. [2]
- (b) Describe the texture and structure of the resulting product. [2]
- (c) Explain how varying the proportion **or** changing the manufacturing process will affect the product. [4]
5. Name **four** specific pieces of industrial equipment and explain what **each** one is used for in food manufacturing. 4 × [2]

6. Food manufacturers make extensive use of Quorn, T.V.P, Tofu and single cell proteins in their product ranges.

Evaluate the use of **one** of these products. [8]

7. *Prototyping* is an important stage in the development of new food products.

(a) Define the term prototype. [2]

(b) With reference to **one** named food product, explain **three** ways a prototype could possibly be developed to reduce manufacturing costs. 3 × [2]

8. *Primary research* and *secondary research* draw from a variety of sources in order to produce information for the food product designer.

(a) Describe the information identified through *primary research*. [4]

(b) Describe the information identified through *secondary research*. [4]

9. Despite frequent media attention about the effects of poor diet, a significant percentage of the population continues to ignore the warnings.

Explain how manufacturers have designed food products to allow consumers to make healthier choices. [8]

10. *Qualitative testing* and *quantitative testing* are essential procedures in developing new food products.

Describe using specific examples, how **you** have made use of **each** of these testing procedures during your course of study. 2 × [4]

**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 22 marks, 2 of which are for clarity of communication.*

- 11.** Ethical issues have a major influence on the foods we buy today.

Discuss this statement.

[22]

- 12.** Different fats have various properties that can be used by manufacturers to produce a wide range of food products with different characteristics.

(a) Select **three** different fats and explain how the properties of **each** make them suitable for use in named food products. [15]

(b) Evaluate the nutritional claim that some low fat spreads are a healthier alternative to margarine or butter. [5]

*Clarity of communication.*

[2]

- 13.** Food products and packaging have been significantly improved through the introduction of new techniques and materials.

Evaluate how developments in new techniques and materials have improved and extended the range of food products available on the market today. [22]