



GCE AS/A level

351/02

**DESIGN AND TECHNOLOGY
FOOD TECHNOLOGY DT1**

A.M. TUESDAY, 20 May 2008

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. Research for food product design draws on various sources in order to provide reliable information for the designer.
 - (a) Define the terms *Primary* research and *Secondary* research. 2 × [2]
 - (b) Describe the kind of information gained through *Primary* research and *Secondary* research. 2 × [2]

2. A wide range of industrial equipment is used in the manufacturing of food.

Bratt pan Rotary cutters Travelling oven

Select **two** of the above pieces of equipment and evaluate their use in food manufacturing. 2 × [4]

3.
 - (a) State the purpose of a *design specification* when designing and manufacturing a food product. [2]
 - (b) Describe **three** different ways in which a design specification is used during the design and manufacture of a food product. 3 × [2]

4. Some food products are made using *one-off production*.
 - (a) Name **one** food product which would be suitable for one-off production and state a reason for its suitability for this type of production. [2]
 - (b) Outline the advantages **and** disadvantages of one-off production. [6]

5. Describe how *disassembly* can be used in the development of new food products. [8]

6. Foods can be combined in different ways.
Explain, with examples, the meaning of the terms *emulsion* and *foams*. 2 × [4]

7. There are frequent warnings in the media about the health risks of a poor diet.
- (a) Outline the risks of a diet high in sodium chloride (salt). [2]
 - (b) Apart from limiting salt intake, outline other recommendations made by current dietary guidelines. [6]
8. The use of ICT can have a significant effect on the design and manufacture of food products.
- (a) Describe **two** aspects where ICT can be used effectively within research and designing. $2 \times [2]$
 - (b) Describe **two** aspects where ICT can be used effectively within the development and manufacturing process. $2 \times [2]$
9. Many food manufacturers and retailers have changed the way they present nutritional information on food products.
- (a) Describe the changes which have been made. [5]
 - (b) Suggest reasons why these changes have been made. [3]
10. Outline the factors to be considered when manufacturing food products containing meat or fish. [8]

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.** Within a food production system, samples of the food material, component or product may be tested to verify the quality of a batch.

Describe in detail **four** Quality Control procedures that may be used within a food production system. 4 × [5]

Clarity of communication. [2]

- 12.** Cake products can be made using a variety of food materials and manufacturing processes.

(a) Compare and contrast **two** named methods of cake making. [8]

(b) Explain the changes that happen to a cake mixture when it is heated in the oven. [6]

(c) Explain **three** ways that the shelf-life of a cake product could be extended. 3 × [2]

Clarity of communication. [2]

- 13.** The key stages of production, from sourcing materials to final delivery of a food product, must be effective for **both** the manufacturer and the consumer.

Discuss this statement in relation to a named food product or products. [22]