



**GCE AS/A level**

1111/02

**DESIGN AND TECHNOLOGY – DT1**  
**Food Technology**

A.M. WEDNESDAY, 14 May 2014

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) Give **two** examples of standardised food components. 2 × [1]  
(b) Outline **three** reasons why manufacturers may choose to use standardised components in the production of food products. 3 × [2]
  
2. Research methods used within food technology draw on various sources in order to provide reliable information for the food technologist and the food manufacturer.  
(a) Explain the terms Primary research and Secondary research. 2 × [2]  
(b) Describe the type of information that is gained through **both** Primary research and Secondary research. 2 × [2]
  
3. Patents, Copyright, Registered Trade Marks, Registered Design and Design Rights are distinct intellectual property rights granted by the Intellectual Property Office.  
Describe the features and protection provided by **two** of the above intellectual property rights. 2 × [4]
  
4. Gelatinisation occurs during the manufacture of the filling for a lemon meringue pie.  
(a) Explain the process of gelatinisation. [4]  
(b) Explain how sugar and acid affect gelatinisation and the implications for making a lemon meringue pie filling. [4]

5. Explain how **each** of the following is used within the development of new food products:

- (a) databases for nutritional analysis; [4]
- (b) spreadsheets for costing. [4]

6. GANTT charts, flow charts and critical path analysis charts are used by food technologists and food manufacturers within project management.

For any **two** of the above project management systems:

- (a) state the main features of **each**;  $2 \times [2]$
- (b) describe how they are used within project management. [4]

7. Enrobing is a manufacturing process used within the food industry.

- (a) Describe how enrobing is carried out on **one** named food product. [4]
- (b) Briefly explain **two** benefits to the manufacturer of enrobing a named food product.  $2 \times [2]$

8. The material chosen for packaging a food product will depend on the characteristics of that particular food product.

For **one** named food product of your choice:

- (a) name a specific packaging material; [1]
- (b) describe the properties of this packaging material which make it suitable to use for this particular food product. [7]

**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. The production, distribution and retailing of food are increasingly seen on a global scale. Discuss the advantages and disadvantages of the globalisation of the food industry to the consumer, the food producer and the retailer. [30]
  
10. Discuss the effect of market trends and fashions on the design of food products. [30]
  
11. Discuss how the use of modern food materials and modern manufacturing techniques has influenced the production of new and innovative food products, both aesthetically and functionally. [30]

**END OF PAPER**