

GENERAL CERTIFICATE OF SECONDARY EDUCATION

DESIGN AND TECHNOLOGY

FOOD TECHNOLOGY

Paper 4 (Higher Tier)

THURSDAY 19 JUNE 2008

Afternoon

Time: 1 hour 15 minutes

Candidates answer on the question paper

Additional materials: No additional materials are required



* C O P / T 3 9 4 4 0 *

Candidate
Forename

Candidate
Surname

Centre
Number

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Candidate
Number

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INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of each question or part question.
- The marks allocated and the spaces provided for your answers are a good indication of the length of answers required.
- The total number of marks for this paper is **50**.
- Question 2, Product Analysis, is based on the theme **Chilled Dessert Products**.

FOR EXAMINER'S USE	
1	
2	
3	
4	
5	
TOTAL	

This document consists of **12** printed pages.

1 Computer systems are used by many food manufacturers to control equipment and machinery during the manufacture of food products.

Fig. 1 shows part of a production line for the manufacture of biscuits.

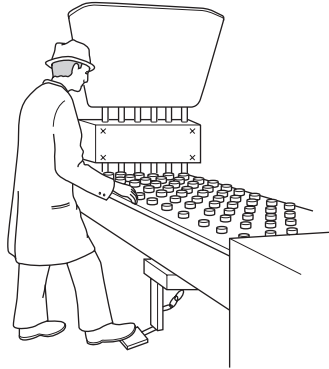


Fig. 1

(a) Give **two** reasons why a biscuit manufacturer could decide to invest in a computer system for designing the packaging for a new product range.

Reason 1

..... [1]

Reason 2

..... [1]

(b) Give **two** advantages to the manufacturer of using robotics in biscuit production.

Advantage 1

..... [1]

Advantage 2

..... [1]

(c) Explain **two** ways in which computer systems could control equipment and machines in the production of biscuits.

1
.....
..... [2]

2
.....
..... [2]

(d) A manufacturer has decided to produce the biscuits by batch production.

Give **two** benefits to the manufacturer of using this method of production.

Benefit 1
..... [1]

Benefit 2
..... [1]

[Total: 10]

2 A food manufacturer wants to extend its 'Healthy Option' range to include chilled desserts. Fig. 2 shows a chilled cheesecake product.

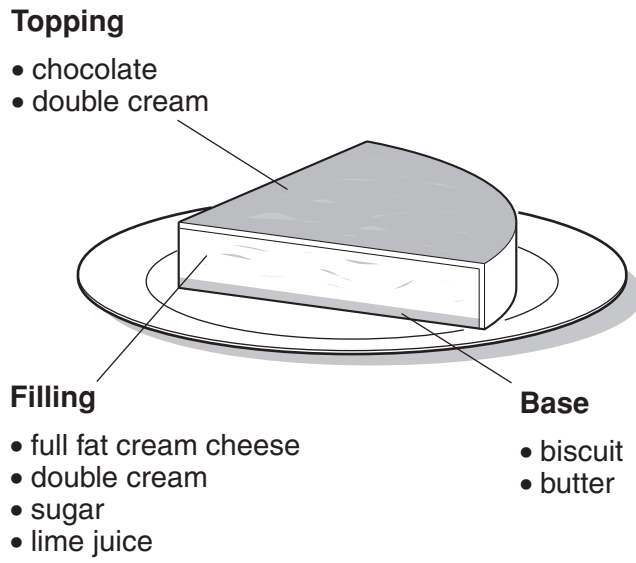


Fig. 2

(a) State **one** ingredient that could be used to set the filling layer of the cheesecake.

.....[1]

(b) The manufacturer has decided to change the ingredients of the cheesecake shown in Fig. 2 to meet healthy eating guidelines. Explain **three** different ways this could be done.

Lower the fat

.....

..... [2]

Lower the sugar

.....

..... [2]

Increase the fibre

.....

..... [2]

(c) State the name of the equipment that is used in the food industry to check the temperature of chilled foods.

..... [1]

(d) Explain how the chilling process is carried out in the food industry.

.....
.....
.....
..... [2]

[Total: 10]

- 3 A food manufacturer is developing a new design for a traditional apple pie. Fig. 3 shows a traditional apple pie.

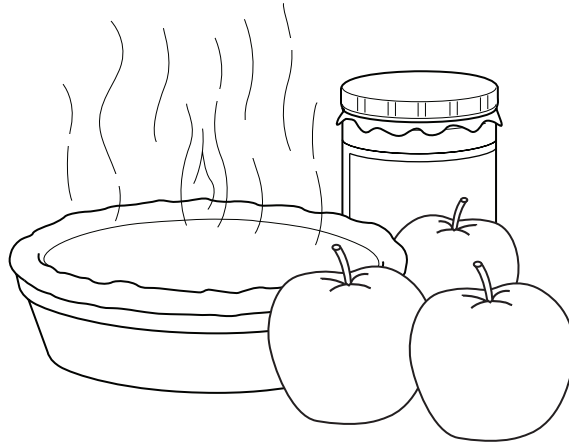


Fig. 3

- (a) The design specification for a new apple pie product is shown in the table below.

Complete the table to describe how each specification point could be achieved.

Specification point	Description
New improved flavour
Less pastry
Variety of textures
Appeal to families

[4]

(b) Explain **one** reason why the manufacturer has included less pastry in the design specification.

.....
.....
.....
..... [2]

(c) Explain **two** reasons why new food products are made in a test kitchen before larger scale production takes place.

Reason 1
.....
.....
..... [2]

Reason 2
.....
.....
..... [2]

[Total: 10]

- 4 Vegetables are a versatile food.
Fig. 4 shows a packet of frozen vegetables.



Fig. 4

- (a) Describe how freezing increases the shelf life of vegetables.

.....
.....
.....
..... [2]

- (b) Explain **two** ways to reduce the loss of vitamin C when preparing and cooking vegetables.

1
.....
.....
..... [2]

2
.....
.....
..... [2]

(c) Vegan diets could lack some essential nutrients.

Explain **two** ways that the nutritional needs of a vegan could be met.

1
.....
.....
..... [2]

2
.....
.....
..... [2]

[Total: 10]

- 5 Barbecued foods carry a high risk of food poisoning.
Fig. 5 shows a barbecue.



Fig. 5

- (a) Explain **two** reasons why barbecued foods carry a high risk of food poisoning.

Reason 1

.....

..... [2]

Reason 2

.....

..... [2]

(b) Discuss how the choice of packaging and labelling of food products can help prevent food poisoning.

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..... [6]

[Total: 10]

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