

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

For Examiner's Use

General Certificate of Secondary Education
June 2006

**DESIGN AND TECHNOLOGY
(FOOD TECHNOLOGY)
Written Paper
Higher Tier**

**3542/H
H**



Friday 23 June 2006 1.30 pm to 3.30 pm

<p>For this paper you must have:</p> <ul style="list-style-type: none"> a pen, pencil, ruler, eraser, pencil sharpener and coloured pencils.
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Time allowed: 2 hours

Instructions

- Use blue or black ink or ball-point pen. Use pencil and coloured pencils only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The maximum mark for this paper is 125.
- The marks for questions are shown in brackets.
- You are reminded of the need for good English and clear presentation in your answers.



For Examiner's Use			
Question	Mark	Question	Mark
1		5	
2		6	
3		7	
4		8	
Total (Column 1) →			
Total (Column 2) →			
TOTAL			
Examiner's Initials			

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Answer **all** questions in the spaces provided.

1 (a) World-class sporting events attract many people.

Name **two** different factors that affect the choice of foods made by

<p>(i) competitors;</p> 	<p>1</p> <p>.....</p> <p>2</p> <p>.....</p> <p style="text-align: right;"><i>(2 marks)</i></p>
<p>(ii) spectators.</p> 	<p>1</p> <p>.....</p> <p>2</p> <p>.....</p> <p style="text-align: right;"><i>(2 marks)</i></p>

(b) How can manufacturers use computers to gather information about the food preferences of visitors from other countries?

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(4 marks)

Turn over ►

- 2 A catering company is developing design ideas for **savoury** snack products for **competitors** at a sports stadium hosting world cup events.

The snack product must meet the following design criteria:

- include freshly made pastry, not ready prepared pastry
- have a savoury filling
- be high in energy
- be suitable to hold in the hand
- meet the cultural needs of competitors.

- (a) Use notes and sketches to produce **two** different design ideas which meet the design criteria.

Do **not** draw any packaging.

Design idea 1

Product name:

(5 marks)

Design idea 2

Product name:

(5 marks)

Turn over ►

(b) Choose **one** of your design ideas to develop.

Design Idea 1

Design Idea 2

Explain how your chosen idea is

(i) a high energy product

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(2 marks)

(ii) meeting the cultural needs of competitors from other countries

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(2 marks)

(iii) suitable to hold in the hand.

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(2 marks)

(c) Produce a plan for making your chosen design idea in the test kitchen.

Include details of processes and control checks used.

You may use flow charts, diagrams, notes or sketches in your answer.

(10 marks)

Turn over ►

(d) Describe your chosen design idea in more detail in the table below.

(i) List the main ingredients needed to make your product. *(2 marks)*

(ii) Include the quantity of each ingredient needed. *(2 marks)*

(iii) Give a **different** reason why each ingredient is used. *(5 marks)*

Ingredient	Quantity	Reason for use

(e) Use notes and/or sketches to describe **two** different ways of giving a quality finish to your chosen design idea.

Finish 1	Finish 2

(6 marks)

3 The table below shows food facts for two similar pastry products.

Product A		Product B	
Wholemeal shortcrust pastry with reduced fat cheese, fresh sliced tomato, onions and herb topping		Flaky pastry topped with full fat cream cheese, onion flavouring and sundried tomatoes	
Energy	146 kcal	Energy	229 kcal
Protein	1.7 g	Protein	1.5 g
Carbohydrates	23.8 g	Carbohydrates	25 g
Fat	4.8 g	Fat	9 g
Fibre	5.7 g	Fibre	0.5 g

(a) Explain which product provides the healthier option.

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(6 marks)

Question 3 continues on the next page

Turn over ►

- (b) A test kitchen is testing new ideas for pastry products using the following control sample.

Control sample for shortcrust pastry		
100 g plain white flour	50 g margarine	water to mix

- (i) What does the term ‘control sample’ mean?

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(2 marks)

- (ii) Why is the ratio and proportion of ingredients important when making pastry?

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(2 marks)

- (iii) What would be the effects of changing the ingredients shown below?

Test	Effects of change
<p>Test sample 1</p> <p>Changing the margarine to butter</p>	
<p>Test sample 2</p> <p>Changing the plain white flour to wholemeal flour</p>	

(4 marks)

4 (a) What does the following information mean?

Information	Meaning
Use by 07/09/06	
Best before 07/09/06	

(4 marks)

(b) Why is datemarking information important

(i) for consumers

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(2 marks)

(ii) for supermarkets?

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(2 marks)

Question 4 continues on the next page

Turn over ►

(c) Explain **why** the following materials are often used to package food products.

(i) Paperboard

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(2 marks)

(ii) Polystyrene

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(2 marks)

5 Manufacturers of food products often use standard components.

(a) Name **two** different ways flaky pastry is sold as a standard component.

- 1
- 2 (2 marks)

(b) What is the correct *storage temperature* for the following standard components?

Standard component	Correct storage temperature
A packet of frozen vol au vents	
A tin of pie filling	
A bag of grated cheese	

(3 marks)

(c) What are the advantages **and** disadvantages of using standard components?

Advantages

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Disadvantages

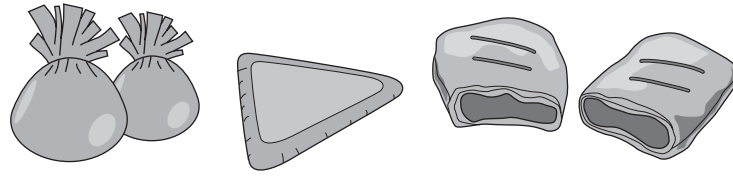
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(6 marks)

Turn over for the next question

Turn over ►

- 6 (a) Control checks are made on different batches of salmon and prawn filo parcels.



Problems found during the checks are listed below.

- (i) Give **one** cause of **each** problem. (5 marks)
- (ii) Explain how the problem may be prevented. (5 marks)

Problem	(i) Cause	(ii) How to prevent this problem
Filo pastry is dry and breaks up when handled.		
The filling leaks out of the parcel during cooking.		
Pieces of fish shell are found in the filling.		
Creamy sauce is thin and runny.		
The final product is pale and lacks colour.		

(b) Results from critical control checks are shown below.

(i) Identify the cause of contamination in each example. (3 marks)

(ii) Suggest **one** way of preventing the contamination. (6 marks)

Routine checks	Cause of contamination: Tick one	How to prevent the contamination
Mould is found on the surface of ingredients.	<input type="checkbox"/> Physical <input type="checkbox"/> Chemical <input type="checkbox"/> Biological	
A metal detector alarm sounds as the product is scanned.	<input type="checkbox"/> Physical <input type="checkbox"/> Chemical <input type="checkbox"/> Biological	
A pH test shows a high level of alkaline substance.	<input type="checkbox"/> Physical <input type="checkbox"/> Chemical <input type="checkbox"/> Biological	

(c) Explain why some control checks are made by computers.

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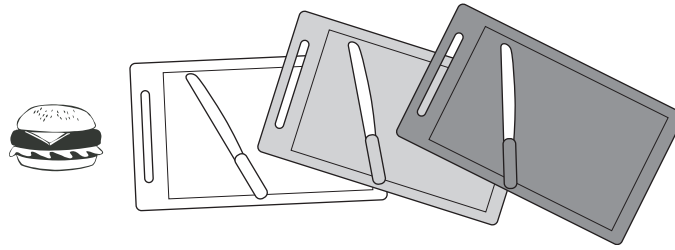
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(4 marks)

7 (a) Explain why colour coded equipment is used when preparing beefburgers.



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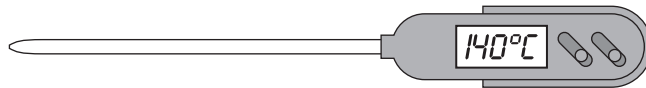
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(3 marks)

(b) Explain how **and** why food probes are used when cooking and serving savoury pies.



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(4 marks)

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