

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

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General Certificate of Secondary Education  
 Summer 2003  
 Foundation Tier



**DESIGN AND TECHNOLOGY:  
 FOOD TECHNOLOGY**

**3542/F**

**F**

Friday 6 June 2003 1.30 pm to 3.30 pm

**In addition to this paper you will require:**  
 a pen, pencil, ruler, eraser, pencil sharpener and  
 coloured pencils.

For Examiner's Use	
Number	Mark
1	
2	
3	
4	
5	
6	
7	
<b>TOTAL</b>	
Examiner's initials	

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** the questions in the spaces provided.
- All working must be shown.
- Do all rough work in this book. Cross through any work you do not want marked.

**Information**

- The maximum mark for this paper is 125.
- Mark allocations are shown in brackets.
- Wherever calculations are needed you should show your working.
- You are reminded of the need for good English and clear presentation.

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

**Question 1 is about collecting information about products.**

1 (a) Give **three** advantages, with reasons, of buying ready prepared burger products.

Advantage .....

Reason .....

.....  
(2 marks)

Advantage .....

Reason .....

.....  
(2 marks)

Advantage .....

Reason .....

.....  
(2 marks)

(b) Describe **two** ways a computer can be used to find out information about burger products.

1 .....

.....  
(2 marks)

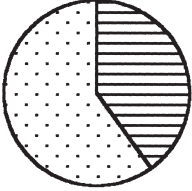
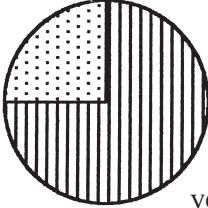
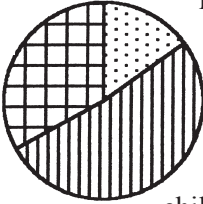
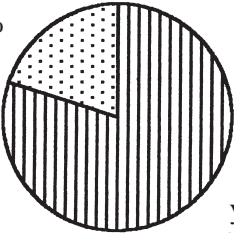
2 .....

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(2 marks)

**Question 2 is about designing products.**

2 (a) Using the survey results below, write a list of design criteria for a ready made barbecue product.

An example is given.

Results	General design criteria
<p style="text-align: center;"><b>Product most liked</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>burgers 60%</p> </div>  <div style="text-align: center;"> <p>kebabs 40%</p> </div> </div>	<p style="text-align: center;">The product should be a burger product.</p>
<p style="text-align: center;"><b>Served with a bread product?</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>no 25%</p> </div>  <div style="text-align: center;"> <p>yes 75%</p> </div> </div>	
<p style="text-align: center;"><b>Who is the new product for?</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>adults 33%</p> </div>  <div style="text-align: center;"> <p>families 15%</p> </div> <div style="text-align: center;"> <p>children 52%</p> </div> </div>	
<p style="text-align: center;"><b>Do you like a variety of flavours?</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>no 20%</p> </div>  <div style="text-align: center;"> <p>yes 80%</p> </div> </div>	

(3 marks)

(b) Use notes or labelled sketches to describe **two** design ideas that meet the criteria.

DO NOT INCLUDE PACKAGING DETAILS.

**Design idea 1**

*(5 marks)*

**Design idea 2**

*(5 marks)*

**QUESTION 2 CONTINUES ON THE NEXT PAGE**

**Turn over ►**

(c) Tick the box to show which design idea best fits the design criteria.

Design idea 1

Design idea 2

Explain how this design idea meets the design criteria.

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*(4 marks)*

(d) The **bread product** will be developed in the test kitchen.

- (i) Describe **three** main ingredients needed to make the **bread product** used in your chosen idea. Explain why each ingredient is used.

Ingredients	Why used

(6 marks)

- (ii) Describe, with reasons, **three** different ways of developing a basic bread recipe to give more interest and appeal to children.

Development 1	Reason
Development 2	Reason
Development 3	Reason

(6 marks)

Turn over ►

**Question 3 is about developing new products in the test kitchen.**

3 (a) A test kitchen is developing a marinade.

Give **two** reasons why a marinade is used.

1 .....

.....

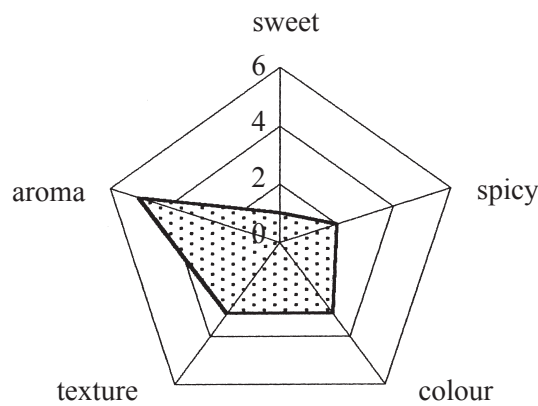
2 .....

.....

(2 marks)

(b) The results of sensory testing a sweet and spicy marinade are shown below.

1 = very poor  
6 = very good.



What ingredients can be added to improve this marinade?

Ingredients to be added	Reasons for choice

(6 marks)

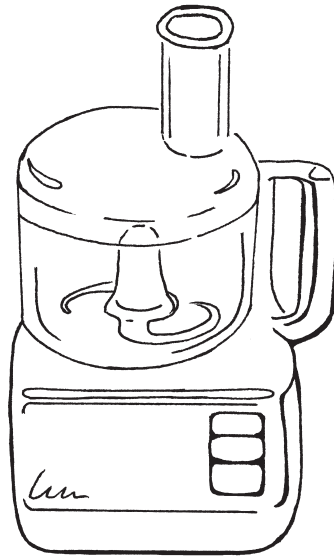




**Question 4 is about preparing prototypes in a test kitchen.**

4 (a) What are the advantages of using

(i) a food processor to make coleslaw?



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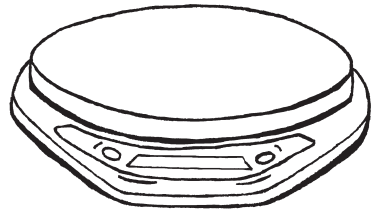
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*(4 marks)*

(ii) electronic scales to measure spices?



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*(2 marks)*

(b) What general food safety rules need to be used in a test kitchen?

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(6 marks)

12

**TURN OVER FOR THE NEXT QUESTION**

**Turn over ►**

**Question 5 is about industrial production systems.**

**5** (a) The chart below shows the main stages in making barbecue chicken.

Give examples of **different** control checks used at each stage.

An example is given.

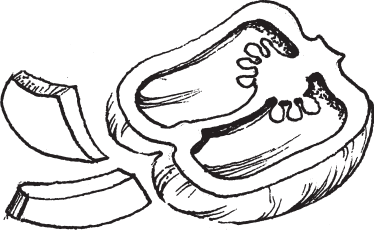



Production stages	Control checks
Delivery of ingredients.	Check that foods are fresh and are within use by date.
Storage of frozen chicken before use.	
Preparing chicken ready for use.	
Cooking the chicken.	
Chilling the cooked chicken.	
Packaging the barbecue chicken ready for sale.	

(10 marks)

(b) Feedback from quality control identifies problems during production.

Complete the table below to show:

- (i) the causes of the problems shown;
- (ii) how the problem may be controlled.

Problem	Cause	How to control problem
<p>Uneven sizes of red pepper in a kebab.</p> 		
<p>Burger buns that do not rise when cooked.</p> 		
<p>Apples used in a salad go brown.</p> 		
<p>Oil and vinegar in a salad dressing keep separating.</p> 		

(16 marks)

**Question 6 is about the packaging of ready prepared barbecue products.**

6 (a) Why is food packaged?

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*(6 marks)*

(b) (i) Salads are popular barbecue accompaniments.

Write a specification for the **packaging** of a ready prepared salad.

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*(3 marks)*

(ii) Describe, with reasons, **two** packaging materials used for ready prepared salads.

<b>Packaging material</b>	<b>Reasons why this material is used</b>

*(6 marks)*

(c) Barbecue products use many high risk foods.

(i) Explain what is meant by a high risk food.

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.....  
.....

(2 marks)

(ii) Give **three** examples of high risk barbecue foods.

1 .....  
2 .....  
3 .....

(3 marks)

(iii) How does information on a food label help consumers to use and store high risk foods safely?

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(5 marks)

25

**TURN OVER FOR THE NEXT QUESTION**

**Turn over ►**

**Question 7 is about meeting the needs of consumers.**

7 Many consumers prefer healthier option products.

How does the range of barbecue products on sale offer healthier options to consumers?

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*(6 marks)*

**END OF QUESTIONS**

