

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

Leave blank

General Certificate of Secondary Education
 Summer 2003
 Higher Tier



**DESIGN AND TECHNOLOGY:
 FOOD TECHNOLOGY**

3542/H

H

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	
TOTAL	
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 using research to generate design ideas.

1 (a) Explain why sales of ready prepared barbecue products have increased over recent years.

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(4 marks)

(b) What are the disadvantages of buying ready prepared barbecue products?

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(4 marks)

(c) Describe ways in which a manufacturer may use a computer to obtain information about barbecue products.

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(4 marks)

Question 2 is about designing new food products.

2 A design team work to the following design criteria for a new barbecue product.

A successful product will:

- **be a savoury, main course product**
- **include a marinade**
- **be eaten without cutlery**
- **be served hot from the barbecue**
- **appeal to a variety of consumers**
- **be colourful**

- (a) (i) With the aid of notes and sketches describe **two** initial design ideas.

DO NOT INCLUDE PACKAGING

Design idea 1

Product:

Marinade:

(5 marks)

Design idea 2

Product:

Marinade:

(5 marks)

QUESTION 2 CONTINUES ON THE NEXT PAGE

Turn over ►

(ii) 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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(8 marks)

(iii) List the ingredients used in your chosen design.

Explain the function of each ingredient.

Ingredient	Function
Product	
Marinade	

(10 marks)

(b) With the aid of notes and sketches design and describe suitable **packaging** for your product.

Marks will be awarded for including:

- labelling details;
- reasons for choice of materials.

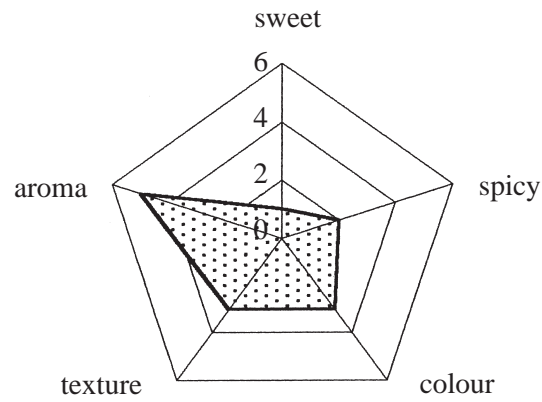
(10 marks)

Turn over ►

Question 3 is about developing design ideas in the test kitchen.

3 The profile below shows the results of sensory testing a sweet and spicy dip.

1 = very poor
6 = very good.



(a) What ingredients can be added to improve the dip?

Ingredients to be added	Reasons for choice

(6 marks)

(b) (i) Describe how to set up a sensory test for three sweet and spicy dips.

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(5 marks)

(ii) Explain how to make the test fair.

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(2 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

Turn over ►

(c) Mayonnaise can be used as a base for dips.

Mayonnaise ingredients
Water, vegetable oil, glucose, modified starch, egg yolk, vinegar, salt, preservative, stabiliser, lemon juice.



What are the functions of the following ingredients?

Ingredient	Function
Preservative	
Modified starch	

(4 marks)

(b) The table below shows the main stages in the production of a chilled burger product.

Complete the chart to show:

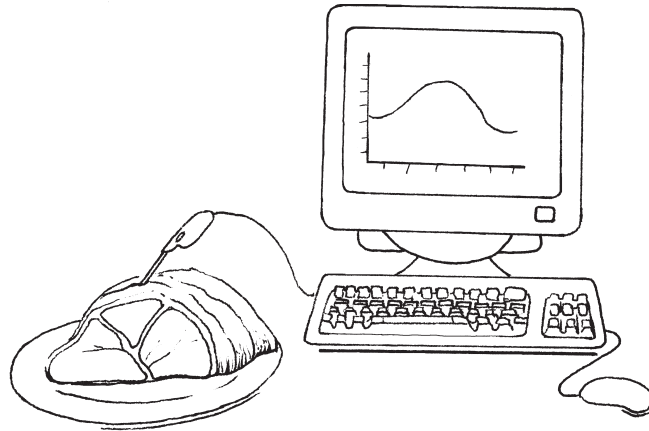
(i) a different hazard at each stage; (4 marks)

(ii) the measures put in place to control each hazard. (4 marks)

An example is given.

Stages	Hazard	Control measure
Delivery of raw materials	<i>Biological contamination of food by bacteria</i>	<i>Check datemark is within use by date</i>
Preparing the burger mixture		
Shaping the burgers		
Chilling the burgers		
Packaging the burgers		

(c) Describe **two** critical control checks which can be carried out by computers.



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(4 marks)

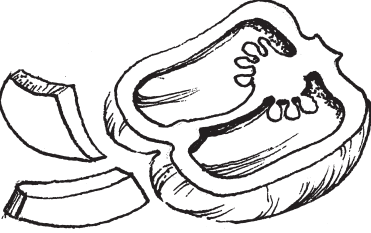



TURN OVER FOR THE NEXT QUESTION

Question 5 is about feedback from quality control checks.

5 Feedback from quality control identifies problems during production.

Complete the table below to show:

- (a) the causes of the problems shown;
(b) how the problem may be controlled.

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

(16 marks)

Question 6 is about food safety and labelling of ready prepared foods.

6 (a) Why do barbecues carry a high risk of food poisoning?

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(5 marks)

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

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(5 marks)

10

Turn over ►

