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| Surname | | Other Names | |
| Centre Number | | Candidate Number | |
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General Certificate of Secondary Education
 Summer 2003
 Higher Tier



**DESIGN AND TECHNOLOGY:
 FOOD TECHNOLOGY (SHORT COURSE)**

3552/H

H

Friday 6 June 2003 1.30 pm to 3.00 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 | |
| TOTAL | |
| Examiner's initials | |

Time allowed: 1 hour 30 minutes

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 100.
- 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) 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 ►

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

Design idea 1

Design idea 2

Explain how your chosen idea meets the design criteria.

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(8 marks)

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

Explain the function of each ingredient.

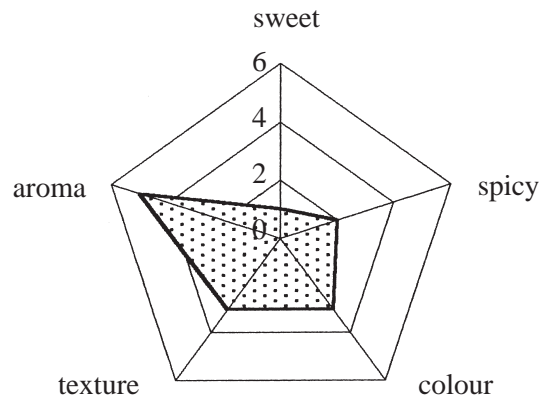
| Ingredient | Function |
|-----------------|----------|
| Product | |
| Marinade | |

(10 marks)

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 coleslaw.

1 = very poor
6 = very good.



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

| Ingredients to be added | Reasons for choice |
|-------------------------|--------------------|
| | |
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| | |

(6 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

Turn over ►

(b) (i) Describe how to set up a sensory test for **three** coleslaw products.

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(5 marks)

(ii) Explain how to make the test fair.

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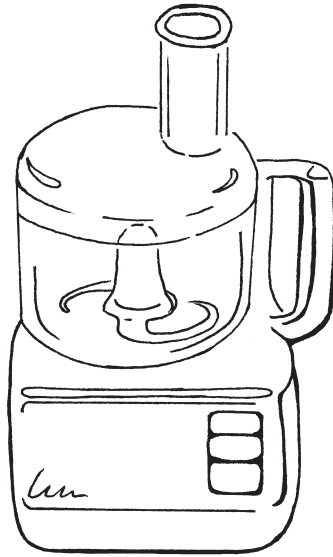
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(2 marks)

(c) What are the advantages of using a food processor to make coleslaw?



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(4 marks)

TURN OVER FOR THE NEXT QUESTION

Turn over ►

Question 4 is about industrial practices.

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

Complete the chart to show:

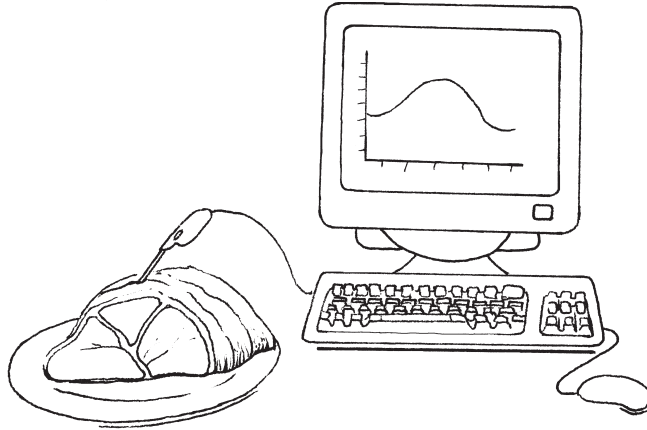
(i) a different hazard at each stage; (4 marks)

(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 | | |

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



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(4 marks)

TURN OVER FOR THE NEXT QUESTION

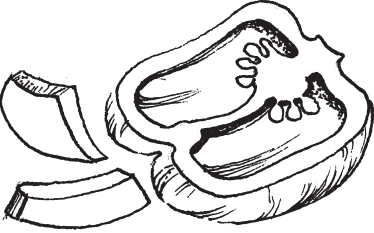
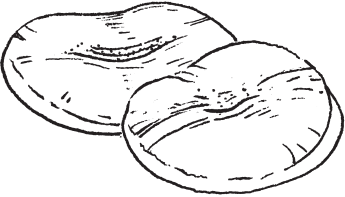
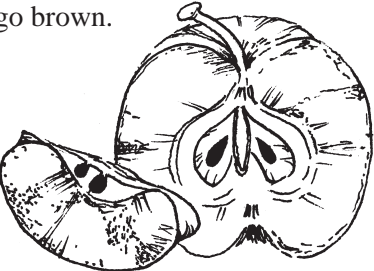

Turn over ►

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 the packaging of ready prepared foods.

6 (a) Explain the functions of food packaging.

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(4 marks)

(b) Describe, with reasons, different packaging materials for the following barbecue products.

| Product | Packaging material | Reason for choice |
|--------------------------|--------------------|-------------------|
| Ready washed green salad | | |
| Barbecue sauce | | |
| Kebabs on skewers | | |

(6 marks)

QUESTION 6 CONTINUES ON THE NEXT PAGE

Turn over ►

(c) How does information on the food label help consumers to use and store ready prepared foods safely?

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(5 marks)

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END OF QUESTIONS