Surname		Other Names	
Centre Number			Candidate Number				
Candidate Signature								

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General Certificate of Secondary Education
June 2005

DESIGN AND TECHNOLOGY: FOOD TECHNOLOGY
Higher Tier

3542/H
H

Thursday 16 June 2005 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.

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.

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

NO QUESTIONS APPEAR ON THIS PAGE

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

Question 1 is about the product range.

1 (a) (i) Name **one** method of research used to find out about consumer views on different types of milk.

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(1 mark)

(ii) Describe how this research is carried out.

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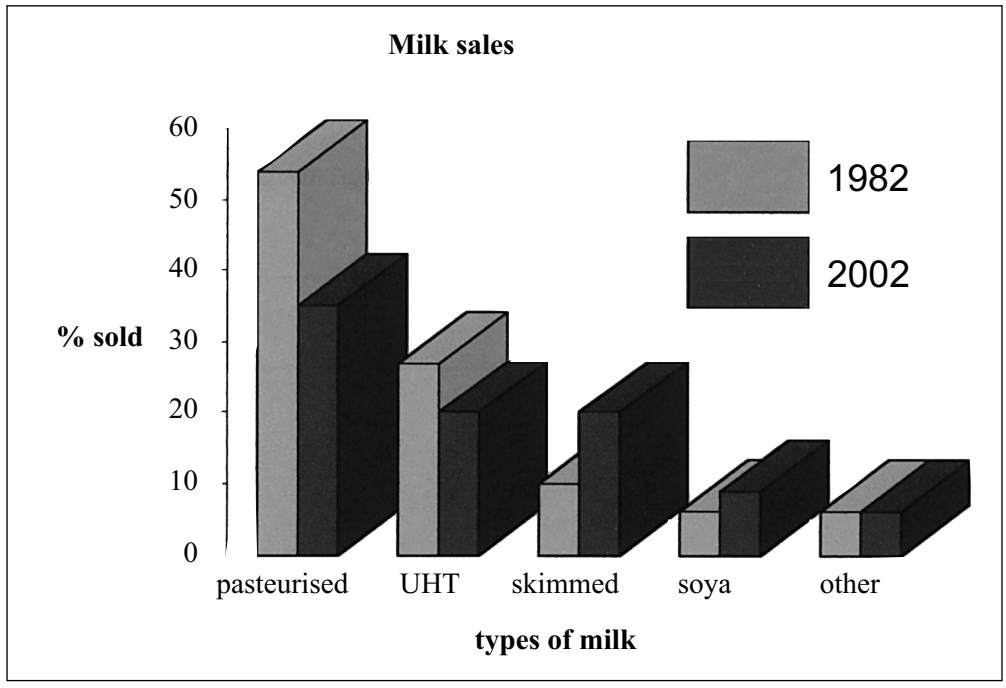
(4 marks)

QUESTION 1 CONTINUES ON THE NEXT PAGE

(b) The chart below shows the results of research into milk sales.



(i) Name **one** type of milk that has become more popular.

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(1 mark)

(ii) Give reasons for this change.

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(3 marks)

(iii) What does UHT stand for?

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(1 mark)

(iv) What are the advantages of UHT milk?

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(3 marks)

(v) Name **two** types of milk that will be in the category 'other' on the chart.

1 .....

2 .....

(2 marks)

15

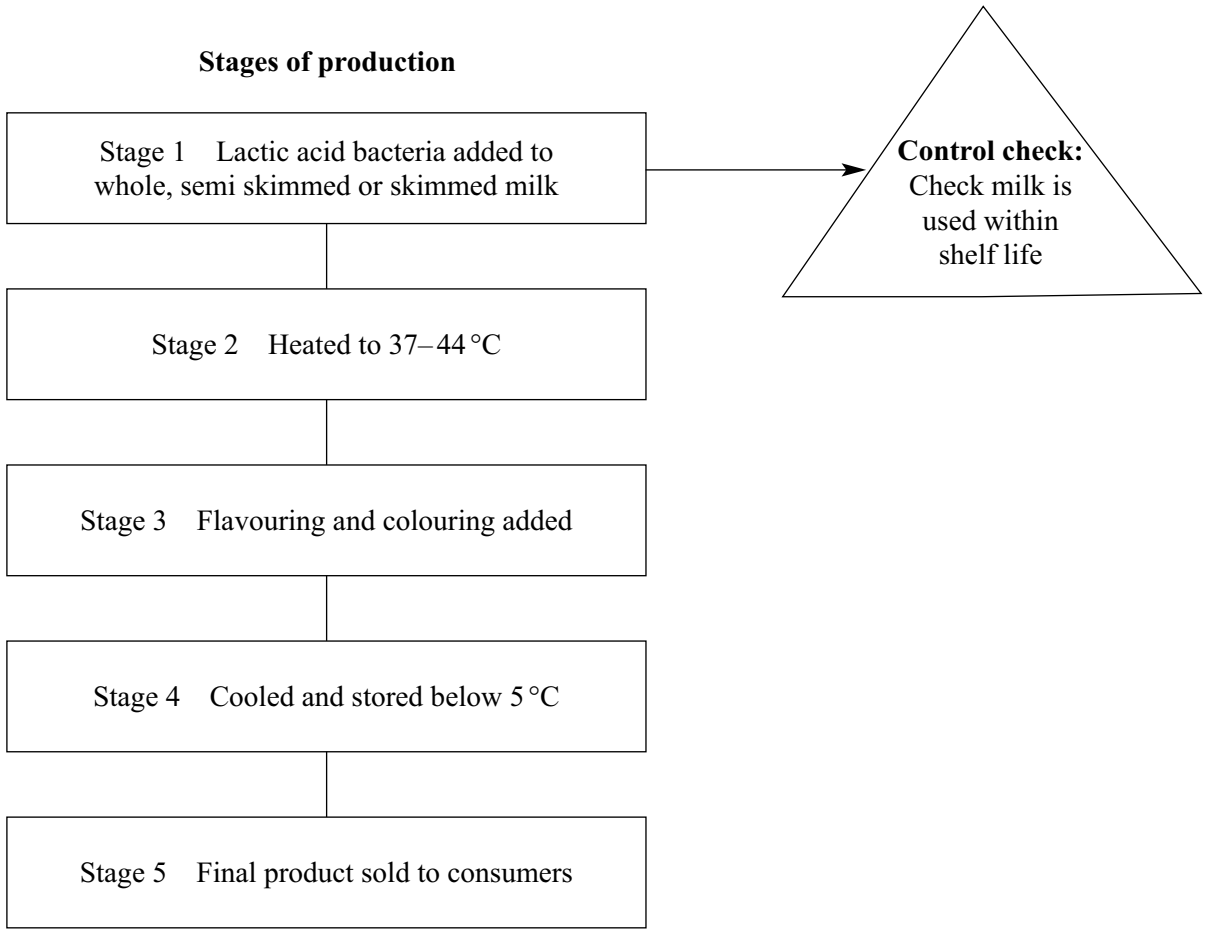
TURN OVER FOR THE NEXT QUESTION

Question 2 is about the secondary processing of milk.

2 Milk can be processed into yoghurt.

The diagram below shows the main stages in the production of yoghurt.
Use this information to answer the questions on the next page.

Stages of production



An example of one control check is shown on the diagram.

(a) Describe different control checks that take place during **two** other stages of yoghurt production.

(i) Stage .....
(1 mark)

Control check: .....

.....

.....

.....
(2 marks)

(ii) Stage .....
(1 mark)

Control check: .....

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(2 marks)

(b) Why are control checks used?

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(2 marks)

8

TURN OVER FOR THE NEXT QUESTION

Question 3 is about designing new food products.

3 A catering company makes lunches for secondary school children. The test kitchen is developing new ideas for **cold desserts**.

A successful **cold dessert** product will:

- include milk products
- be easy to serve as single portions
- appeal to different cultural tastes
- be served chilled.

(a) With the aid of notes and sketches, produce **two** different design ideas, which meet the design criteria. **DO NOT** draw any packaging.

Design idea 1

(5 marks)

Design idea 2

(5 marks)

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

Design idea 1 ☐ Design idea 2 ☐

Explain in detail how your choice of ingredients helps to meet the needs of the school children

(i) by your choice of milk products;

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(3 marks)

(ii) by using ingredients that will appeal to different cultural tastes.

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(3 marks)

(c) Write a five point **product** specification for your chosen idea.

1 .....

2 .....

3 .....

4 .....

5 .....

(5 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

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

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

(10 marks)

(e) Explain how food workers will be prepared and trained for work in the test kitchen.

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(6 marks)

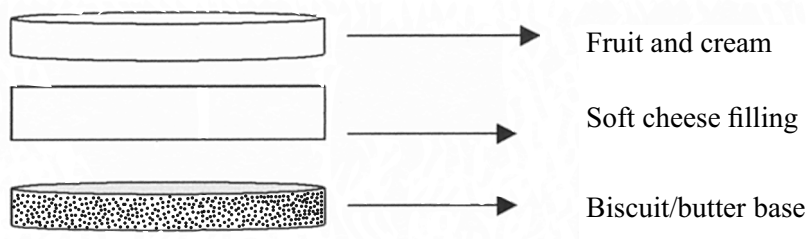
37

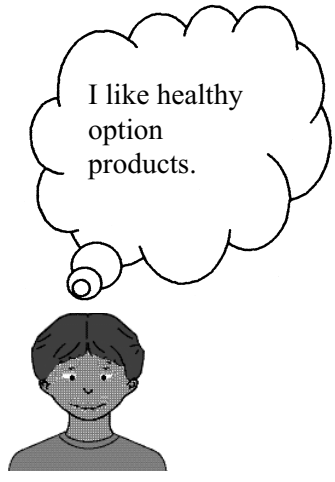
TURN OVER FOR THE NEXT QUESTION

Question 4 is about development of food products.

4 (a) A food manufacturer is developing a range of cheesecake products.

Explain how a basic cheesecake can be developed to meet the needs of consumers.



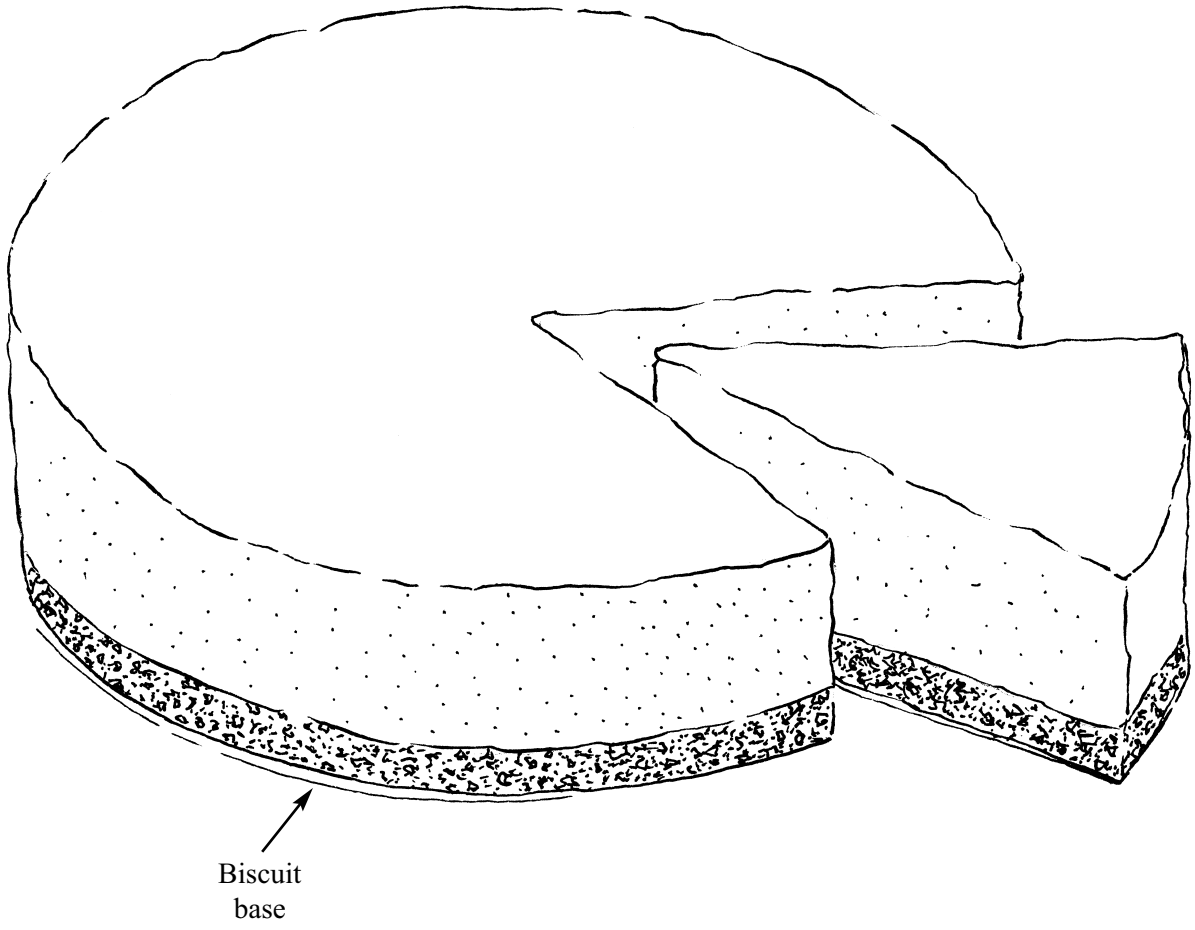
	Development idea	**Reason for any changes**
Consumer 1 	**1**	
	2	
Consumer 2 	**1**	
	2	

(8 marks)

(b) Using notes and sketches describe how a quality finish can be achieved by decorating the top of a cheesecake.

Your design idea should use a mixture of fruit, chocolate and cream.

Design idea:



Description:

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(5 marks)

Turn over ►

Question 5 is about ingredients and components used in food production.

5 (a) Explain why food manufacturers use the following.

(i) 1 egg to 125ml of milk in an egg custard

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(2 marks)

(ii) Butter in shortcrust pastry

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(2 marks)

(iii) Modified starch in a chocolate mousse

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(2 marks)

(iv) Soya milk in milkshakes

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(2 marks)

(b) Standard components are often used in the production of desserts.

(i) What is meant by a standard component?

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(2 marks)

(ii) Give **three** reasons why manufacturers may decide **not** to use standard components.

1 .....

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2 .....

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3 .....

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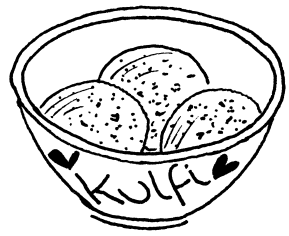
(3 marks)

13

TURN OVER FOR THE NEXT QUESTION

Question 6 is about making ice cream in the test kitchen.

6 The ingredients and method listed below are used to make Kulfi, a popular multi cultural ice cream.

Kulfi (Ice Cream)
Ingredients 150ml warmed milk, 25g ground rice, 20g ground almonds, 50g sugar, 1 tsp ground cardamom, 450ml double cream, 450ml evaporated milk, vanilla flavouring, 25g pistachio nuts. 
Method 1. Add warm milk to almonds and rice. Stir. 2. Boil evaporated milk, add cardamom, stir into rice mixture. 3. Add sugar and cream, cook for 15 minutes, stir continuously. 4. Add flavourings. 5. Allow to cool completely before freezing. 6. Place in freezer. 7. Place in refrigerator 1 hour before use. 8. Add nut topping before serving.

(a) Why is it important for the packaging to show a list of ingredients?

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(2 marks)

(b) (i) Name **one** ingredient used to thicken the kulfi mixture.

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(1 mark)

(ii) Name **one** ingredient used to add a multi cultural flavour.

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(1 mark)

(c) Explain why the instructions advise

(i) stirring continuously

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(3 marks)

(ii) cooling completely before freezing

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(2 marks)

(iii) placing in a refrigerator 1 hour before use.

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(2 marks)

QUESTION 6 CONTINUES ON THE NEXT PAGE

(d) Manufacturers collect and use data during the manufacture of ice cream.

(i) Identify **two** stages where data logging of temperatures will occur during the production of ice cream.

Stage 1 .....

Stage 2 .....

(2 marks)

(ii) Why is it important to keep a data log of temperatures?

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(2 marks)

(e) What are the advantages of using an electric ice cream maker when testing and developing new ice cream products?

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(3 marks)

18

Question 7 is about hazards and hygiene during production.

7 (a) Manufacturers must make risk assessments on any hazards present during production.

(i) Give examples of hazards in the making of a **lemon mousse**.

(ii) Describe **one** way each hazard may be controlled.

	Example of hazard	**How to control the hazard**
Micro biological hazard		
Physical hazard		
Chemical hazard		

(6 marks)

QUESTION 7 CONTINUES ON THE NEXT PAGE

(b) Incorrect storage and use of milk based products may result in food poisoning.

Why do milk based products carry a high risk of food poisoning?

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(3 marks)

(c) Use the chart below to name and describe the symptoms of **two** food poisoning bacteria that can be found in milk products.

Name of food poisoning bacteria:	Name of food poisoning bacteria: .....
Symptoms 1	Symptoms 1
2	2

(6 marks)

(d) Explain how the correct choice of packaging and use of labelling can help prevent food poisoning.

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(6 marks)

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END OF QUESTIONS

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