

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

For Examiner's Use

General Certificate of Secondary Education
June 2008

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

**3542/H
H**



Thursday 22 May 2008 9.00 am to 11.00 am

For this paper you must have:

- a pen, a pencil, a ruler, an eraser, a pencil sharpener and coloured pencils

Time allowed: 2 hours

Instructions

- Use black ink or black ball-point pen. Use pencil and coloured pencils only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- 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			



J U N 0 8 3 5 4 2 H 0 1

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

1 Question 1 is about researching a product range.

1 (a) Explain how manufacturers could use the Internet when designing and making a new range of hot drinks.

.....

.....

.....

.....

.....

.....

(4 marks)

1 (b) What other types of electronic media may be used when researching existing products?

.....

.....

.....

(2 marks)

6



2 Question 2 is about packaging of food and drink products.

2 (a) Give reasons why manufacturers package food and drink products.

.....

.....

.....

.....


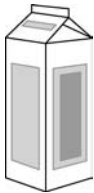
.....

.....

(5 marks)

2 (b) Cold drinks are usually packaged in bottles or cartons.

Complete the table below to explain why the following are good materials for packaging cold drinks.

Material	Why is this a good material for packaging cold drinks?
Plastic 
Waxed paperboard 

(6 marks)

Question 2 continues on the next page

Turn over ►



2 (c) (i) Why is it important that some milk drinks are kept chilled?

.....

.....

.....

.....

(2 marks)

2 (c) (ii) How do retailers control the temperature of chill cabinets?

.....

.....

.....

.....

.....

.....

(4 marks)



3 Question 3 is about designing new food products.

A test kitchen is developing design ideas for biscuits to be sold in a café or coffee shop.

The successful biscuit product will:

- be suitable for consumers with special dietary needs
- have a variety of flavours
- include a decorative coating
- suit batch production.

3 (a) Use notes and sketches to produce **two** different design ideas for a biscuit product which meet the above design criteria.

Do **not** draw any packaging.

Design Idea 1 **Product name**

(5 marks)

Design Idea 2 **Product name**

(5 marks)

Turn over ►



3 (b) Which of your design ideas will you choose to develop?

☐ Design Idea 1

☐ Design Idea 2

Explain how this design idea meets the following design criteria.

3 (b) (i) is suitable for consumers with special dietary needs

.....

.....

.....

.....

.....

.....

(4 marks)

3 (b) (ii) has a variety of flavours

.....

.....

.....

.....

.....

(2 marks)



3 (c) (i) What is meant by the term *product specification*?

.....

.....

.....

.....

(2 marks)

3 (c) (ii) Write a **four**-point *product specification* for your chosen design idea.

1

2

3

4

(4 marks)

3 (c) (iii) Why is it important to evaluate the development of a new design idea against the product specification?

.....

.....

.....

(2 marks)

3 (d) Describe **two** different control checks used to make sure your biscuits are of good quality.

1

.....

.....

2

.....

.....

(4 marks)

Question 3 continues on the next page

Turn over ►



- 3 (e) Using notes, sketches or flowcharts describe the processes and control checks needed to make your chosen design idea in a *test kitchen*.


(10 marks)

38



4 Question 4 is about the functions of ingredients.

Healthy option muffins are popular products with consumers.

Blueberry muffins	Ingredients
	<p>200 g plain wholemeal flour</p> <p>$\frac{1}{2}$ tsp bicarbonate of soda</p> <p>2 tsp baking powder</p> <p>50 g sweetener</p> <p>75 g polyunsaturated margarine (melted)</p> <p>100 ml low fat plain yoghurt</p> <p>100 ml skimmed milk</p> <p>1 egg (beaten)</p> <p>200 g fresh or dried blueberries</p>

4 (a) How are these ingredients suitable for consumers choosing a healthy option product?

.....

.....

.....

.....

.....

.....

.....

.....

(6 marks)

Question 4 continues on the next page

Turn over ►



- 4 (b) (i) Why are bicarbonate of soda **and** baking powder used when making muffins?

.....

.....

.....

(2 marks)

- 4 (b) (ii) Explain why it is important to combine the muffin ingredients *quickly*.

.....

.....

.....

.....

(2 marks)

- 4 (c) What are the causes of the following problems during the production of muffins?

Problem	Cause
A piece of metal is found in a cooked muffin.
Fruit pieces in a cooked muffin have a dry texture.
Cooked muffins are an uneven size.

(6 marks)



- 4 (d) The following storage instructions are printed on a pack of muffins.

Store in an airtight container.

Use within 3 days of purchase.

Explain why these instructions are important to the consumer.

.....

.....

.....

.....

.....

.....

(4 marks)

Turn over for the next question

20

Turn over ►



5 Question 5 is about testing new products.

This is from a recipe for fruit slices.

Ingredients: 150 g wholemeal flour
100 g white flour
50 g soft brown sugar
125 g polyunsaturated margarine
200 g apricots

5 (a) (i) Which ingredients help to give a golden colour to the fruit slice?

.....
.....
(2 marks)

5 (a) (ii) Describe **one** way of developing the fruit slice product to improve the flavour.

.....
.....
.....
(2 marks)

5 (a) (iii) Describe **two** ways of developing the fruit slice product to improve the texture.

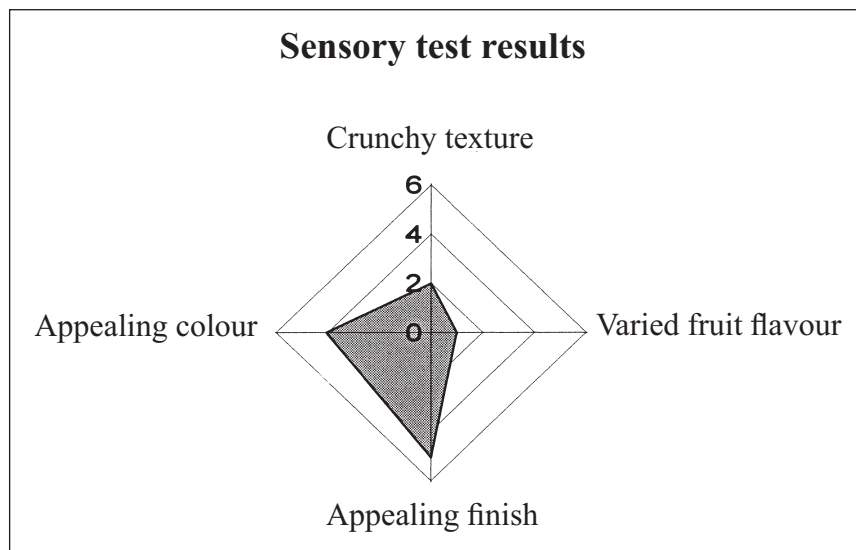
.....
.....
.....
.....
.....
(4 marks)

5 (a) (iv) Describe **one** way of developing the fruit slice to give an appealing, quality finish.

.....
.....
.....
(2 marks)



- 5 (b) (i) The profile below shows the results of sensory testing on a biscuit product.



Explain why manufacturers use sensory testing.

.....

.....

.....

.....

.....

.....

.....

(4 marks)

- 5 (b) (ii) What are the advantages of using a computer to record the results of sensory testing?

.....

.....

.....

.....

(2 marks)

Turn over for the next question



6 Question 6 is about equipment used in food production systems.

- 6 (a) Describe the health and safety rules to be followed by food workers using electrical equipment.

.....

.....

.....

.....

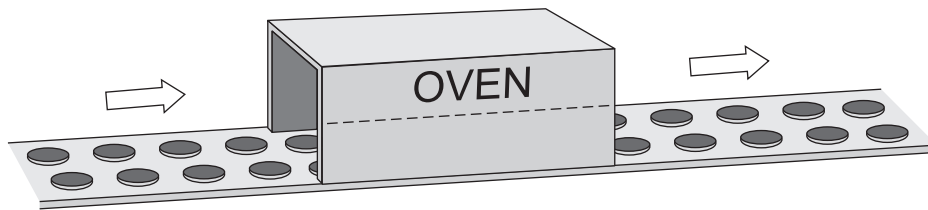
.....

.....

.....

(5 marks)

- 6 (b) What are the advantages of using tunnel ovens when baking batches of biscuits?



.....

.....

.....

.....

.....

.....

(4 marks)



7 Question 7 is about food safety.

7 (a) Why is fresh cream classed as a high risk food?

.....

.....

.....

.....

(3 marks)

7 (b) Hazards may be present when making strawberry milkshakes.

Describe **two** actions taken to prevent each of the hazards.

Step	Hazard	Actions
Buying the fruit	Mould found on strawberries.	1 2
Storage of milk	The milk tastes sour.	1 2
Preparation of milkshake	Whisk blades are dirty.	1 2

(6 marks)



8 Question 8 is about labelling.

Manufacturers often use symbols to pass information on to consumers.

Explain the meaning of the following symbols.

8 (a)



.....

.....

.....

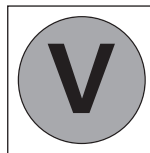
.....

.....

.....

(3 marks)

8 (b)



.....

.....

.....

.....

.....

.....

(4 marks)



8 (c)



.....

.....

.....

.....

.....

.....

(3 marks)

END OF QUESTIONS**10**

There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

Copyright © 2008 AQA and its licensors. All rights reserved.

