

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
5	
6	
TOTAL	



General Certificate of Secondary Education
June 2012

Design and Technology: 45451 Food Technology

Unit 1 Written Paper

Wednesday 16 May 2012 1.30 pm to 3.30 pm

For this paper you must have:

- a black 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. Do not write outside the box around each page or on blank pages.
- Do all rough work in this answer book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 120.
- The questions in Section A relate to the context referred to in the Preliminary Material that was previously issued.
- You are reminded of the need for good English and clear presentation in your answers. Quality of Written Communication will be assessed in Question 3 (c).



J U N 1 2 4 5 4 5 1 0 1

H/Jun12/45451

45451

Section A

You should answer this question in the spaces provided.

Section A is about designing new products.

You should spend about 30 minutes on this question.

Research context: The eatwell plate.

Design theme: Pasta products.

1 (a) Look at **Figure 1** and **Figure 2** before answering the questions.

Figure 1: The eatwell plate shows people the proportions of each kind of food they should eat.

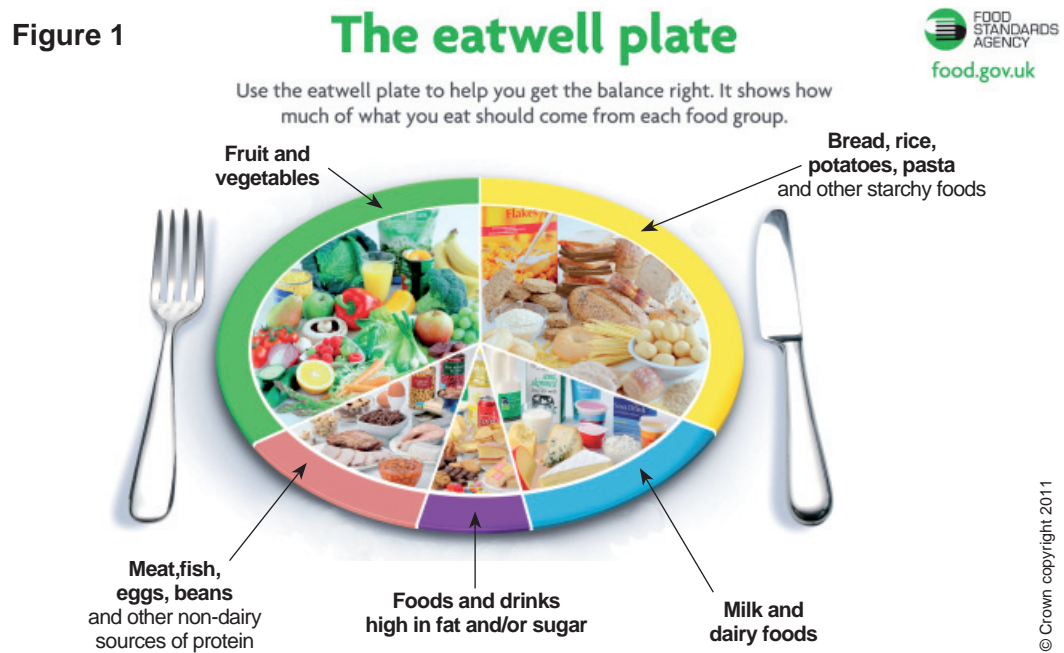


Figure 2 shows a design idea for a pasta salad.

Figure 2

Pasta salad

Ingredients:

- Pasta shapes
- Diced cucumber
- Mozzarella cheese
- Garlic croutons
- Chopped tomatoes
- Salad leaves
- Creamy herb dressing



1 (a) (i) Identify how the pasta salad meets the advice of the eatwell plate.

.....
.....
.....
.....

(2 marks)

1 (a) (ii) Identify how the pasta salad does **not** meet the advice of the eatwell plate.

.....
.....
.....
.....

(2 marks)

1 (a) (iii) Explain **two** ways to make the pasta salad a healthier option.

1

.....
.....
.....

2

.....
.....
.....

(4 marks)

Question 1 continues on the next page

Turn over ►



1 (b) (i) A test kitchen is developing a range of main meal pasta products.

On the next page, use notes and/or sketches to show **two** different design ideas for main meal pasta products that meet the following design criteria.

The design ideas should:

- contain pasta
- be suitable for serving as a hot main meal
- meet the advice of the eatwell plate
- contain a homemade sauce.

You **must** explain how your ideas meet each of the design criteria.



Design idea 1

Product name:

Design idea 2

Product name:

(10 marks)

Question 1 continues on the next page

Turn over ►



1 (b) (ii) Tick the box below to show which of your design ideas you will choose to develop.

Design idea 1

Design idea 2

Using the layout below, complete a plan for making your chosen design idea in the test kitchen.

Main stages of making	Hygiene, safety and quality control checks

(12 marks)

30



Section B

You should answer **all** questions in this section in the spaces provided.

Question 2 is about finding out about existing food products.

You should spend about 20 minutes on this question.

2 (a) (i) Why is it important to research existing food products before starting to design new products?

.....
.....
.....
.....
.....
.....

(3 marks)

2 (a) (ii) Describe ways in which a computer could be used to research existing food products.

.....
.....
.....
.....
.....
.....

(3 marks)

Question 2 continues on the next page

Turn over ►



2 (b) Consumers use information from the labels of food products when deciding what to buy.

2 (b) (i) Here are some of the ingredients used in a can of leek and potato soup.

15 g butter, 50 g onions, 175 g leeks, 100 g potatoes

Complete the ingredient list below by putting the ingredients shown above in the correct order.

<p>Ingredients:</p> <p>300ml water</p> <p>..... stock cube.</p>

(2 marks)

2 (b) (ii) 400 g **e** is shown on a soup label. What does this mean?

.....

.....

.....

.....

(2 marks)

2 (b) (iii) Why is it important that the manufacturer's name and address is on the label?

.....

.....

.....

.....

(2 marks)



2 (b) (iv) Explain the following terms used on food labels.

'Best before'

.....

.....

.....

.....

'Organic'

.....

.....

.....

.....

(4 marks)

Question 2 continues on the next page

Turn over ►



2 (b) (v) The storage instructions for canned soup state:

Pour unused soup into a non-metallic container.
Store in a cool, dry place.
Once opened eat within 2 days.

Explain the reasons for this advice.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)

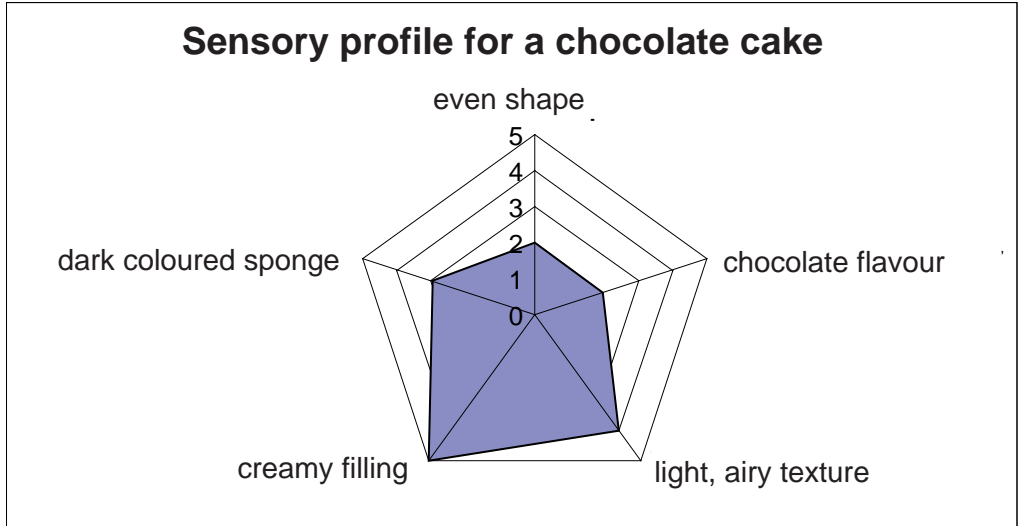
20



Question 3 is about the development of new products.

You should spend about 20 minutes on this question.

The profile below shows the results of sensory testing on a chocolate cake product.



3 (a) Describe **two** developments that would improve the chocolate cake.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(6 marks)

Question 3 continues on the next page

Turn over ►



3 (b) Describe ways to make sure that sensory testing is fair.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(6 marks)



Question 4 is about producing quality products.

You should spend about 20 minutes on this question.

4 (a) Explain how the following equipment may help in the making of good quality bread products.

4 (a) (i) Non-stick loaf tins

.....
.....
.....
.....

(3 marks)

4 (a) (ii) A breadmaking machine

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(4 marks)

4 (b) Describe ways of adding a quality finish to a batch of fruit loaves.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(4 marks)



4 (c) Discuss why preservatives may be used to help produce quality food products.
Give examples to support your answer.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(5 marks)

4 (d) Explain why food manufacturers use modified starches.

Include **two** examples in your answer of food products where modified starch may be used.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)

20

Turn over ►



Question 5 is about consumer choices.

You should spend about 20 minutes on this question.

5 (a) Takeaway foods are popular with many consumers.

5 (a) (i) Explain why consumers choose to buy takeaway products instead of making the food themselves.

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)

5 (a) (ii) Explain some of the disadvantages of takeaway foods.

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)



5 (b) The table below shows the nutritional value of a 100g serving of different energy foods.

Food	Calories	Protein	Carbohydrate	Fat	Fibre
Savoury rice	180 kcal	5.5 g	28.2 g	5.0 g	1.2 g
Jacket potato	93 kcal	2.0 g	21.6 g	0.1 g	1.5 g
Whole wheat pasta	322 kcal	12.5 g	62.15 g	2.5 g	10.0 g

Use information from the table to help you answer the following questions.

5 (b) (i) Which product will provide:
 the lowest energy per 100g?
 the highest fibre content per 100g?
(2 marks)

5 (b) (ii) Why is whole wheat pasta a good choice for consumers with an active and healthy lifestyle?

(4 marks)

Question 5 continues on the next page

Turn over ►



5 (c) Many consumers choose jacket potatoes because they are low in fat.

State **two** ingredients that could be used together for a low fat and high protein filling for a jacket potato.

.....
.....

Give reasons for your choice of ingredients.

.....
.....
.....
.....
.....
.....
.....
.....
.....

(4 marks)

5 (d) Explain how manufacturers could reduce the calorie content of savoury rice products.

.....
.....
.....
.....

(2 marks)

20



Question 6 is about consumer choices.

You should spend about 10 minutes on this question.

6 Discuss a range of religious and cultural needs that manufacturers must consider when designing new food products. Include examples of different multicultural foods in your answer.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(10 marks)

 <hr/> 10

END OF QUESTIONS



There are no questions printed on this page

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

ACKNOWLEDGEMENT OF COPYRIGHT-HOLDERS AND PUBLISHERS

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders have been unsuccessful and AQA will be happy to rectify any omissions of acknowledgements in future papers if notified.

Copyright © 2012 AQA and its licensors. All rights reserved.

