

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 2014

# Design and Technology: Food Technology

**45451**

## Unit 1 Written Paper

Tuesday 3 June 2014 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 question in Section A relates 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 4(c).



J U N 1 4 4 5 4 5 1

**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.

**Context:** Decorated cakes

- 1 (a) (i)** Manufacturers want to create a new range of decorated cakes for cafes and restaurants offering luxury afternoon teas.

On the next page, use notes **and** sketches to produce **two** different design ideas for suitable decorated cakes.

You **must** annotate your two design ideas to show the creative use of different:

- cake making methods
- decorative techniques and finishes
- natural flavours and colours.

Do **not** draw any packaging.

**[12 marks]**



Name of design idea 1: \_\_\_\_\_

Name of design idea 2: \_\_\_\_\_

**Question 1 continues on the next page**

**Turn over ▶**



**1 (a)(ii)** Choose one of your design ideas. Tick the design idea you have chosen.

Design idea 1

Design idea 2

On the chart below, complete the plan for making your chosen design idea in the test kitchen.

**[9 marks]**

<b>Stages of making the cake</b> (You must include the decorative techniques and finishes)	<b>Quality control, hygiene and safety checks</b>



**1 (b)** Complete the chart below to show the quantities of ingredients for a batch of cakes using the creaming method.

The first ingredient is completed for you.

**[3 marks]**

Ingredient	Quantity
Flour	100g
Fat	
Sugar	
Egg	

**1 (c)** Explain what would happen if too much sugar is used when making a fruit cake.

**[3 marks]**

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**Question 1 continues on the next page**

**Turn over ▶**



**1 (d)** Give **three** reasons why some manufacturers use natural flavours and colours instead of artificial flavours and colours in cake products.

**[3 marks]**

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<b>30</b>



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ANSWER IN THE SPACES PROVIDED**

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**2 (a) (ii)** Name **two** health problems caused by too much salt in the diet. **[2 marks]**

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**2 (b) (i)** Explain the difference between 'saturated fat' and 'unsaturated fat'. **[4 marks]**

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**2 (b) (ii)** Give **three** reasons why consumers may choose food products that contain less than 3g of fat. **[3 marks]**




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**Question 2 continues on the next page**

**Turn over ▶**



2 (c) The nutritional value of some breakfast cereals is shown below.

Breakfast cereal	Approximate nutritional value per serving (without milk)		
	Energy	Sugar	Fibre
<b>Frosted flakes</b> 	110 kcal	11g	1g
<b>Wheat biscuits</b> 	134 kcal	1.7g	3.8g
<b>Oats</b> 	100 kcal	0.3g	2.8g

Using the information in the table above, discuss the choice of breakfast cereals for young people who want to eat healthily. Give reasons for your answers.

[6 marks]

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**Turn over for the next question**

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Question 3 is about sensory testing and sauce making.

You should spend about 15 minutes on this question.

**3 (a)** Complete the information below to explain the main stages of making a cheese sauce using the **all in one** method.

**3 (a) (i)**

Stage 1: Collecting the ingredients	Here are the main ingredients used to make a cheese sauce:  Plain flour    Butter    Milk    Grated cheese  Which ingredient contains starch?  .....  <b>[1 mark]</b>
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**3 (a) (ii)**

Stage 2: Mixing the ingredients together	Explain why it is important to stir the mixture all the time when using the all in one method.  <b>[2 marks]</b> ..... ..... ..... ..... ..... ..... .....
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**3 (a) (iii)**

Stage 3:	Describe what happens to the starch granules when the cheese sauce is heated to the following temperatures:
Heating the mixture	<b>[4 marks]</b>
	60°C:..... ..... .....
	80°C:..... ..... ..... .....
	100°C:..... .....

**3 (b)** Explain why some manufacturers use standard components instead of fresh ingredients to make a cheese sauce.

**[4 marks]**

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**Question 3 continues on the next page**

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**3 (c)** Explain why the following are used in the development of a cheese sauce in the test kitchen.

**3 (c) (i)** A profiling test.

**[3 marks]**

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**3 (c) (ii)** A hygienic and quiet area for taste testing.

**[3 marks]**

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Question 4 is about producing quality products.

You should spend about 25 minutes on this question.

- 4 (a)** For each food product below, use annotated sketches to describe different ways of producing quality finishes.

**[8 marks]**

Lemon meringue pie

Bread rolls





**4 (b)** Describe specific quality control checks that are made when the following ingredients are delivered to the retailer.

Do not repeat any of your answers.

**[3 × 3 marks]**

Fresh fish

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Fresh fruit and vegetables

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Several packets of frozen, ready rolled pastry

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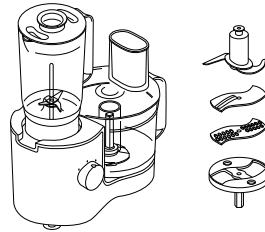
Question 5 is about equipment in the test kitchen.

You should spend about 15 minutes on this question.

**5** Explain why the following equipment is useful when designing or making food products in the test kitchen.

**5 (a)** A food processor with a range of attachments.

Give examples of its use in your answer.



**[5 marks]**

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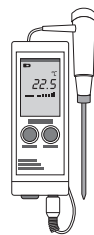
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**5 (b)** A temperature probe.

Give examples of its use in your answer.



**[5 marks]**

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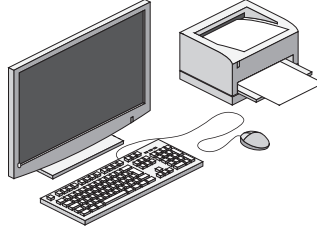
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**5 (c)**

A computer with a printer.

Give examples of its use in your answer.



**[5 marks]**

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**6 (b)** Describe how manufacturers can be environmentally friendly when packaging food products.

**[6 marks]**

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**END OF QUESTIONS**



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Oats © AndrewFurlongPhotography/E+/Getty Images

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