

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Design and Technology:

Food Technology

Unit 2: Knowledge and Understanding of Food Technology

Thursday 23 June 2011 – Afternoon

Time: 1 hour 30 minutes

Paper Reference

5FT02/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches it must be dark (HB or B). Coloured pens, pencils and highlighter pens must **not** be used.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Answer ALL the questions.

For each question 1 to 10, choose an answer A, B, C or D. Put a cross in the box indicating the answer you have chosen . If you change your mind about an answer, put a line through the box and then mark your new answer with a cross .

1 A common symptom of food poisoning is:

- A rash
- B sore throat
- C headache
- D vomiting

(Total for Question 1 = 1 mark)

2 Which **one** of the following foods is most likely to support the growth of bacteria?

- A Butter
- B Honey
- C Mayonnaise
- D Tomato ketchup

(Total for Question 2 = 1 mark)

3 One of the four things that bacteria need in order to grow is:

- A light
- B food
- C ventilation
- D dry atmosphere

(Total for Question 3 = 1 mark)



4 The process of fermentation is used in the production of which food product?

- A Bread
- B Cheese
- C Yogurt
- D Biscuits

(Total for Question 4 = 1 mark)

5 Which **one** of the following is a high biological value (HBV) protein food?

- A Meat
- B Beans
- C Nuts
- D Vegetables

(Total for Question 5 = 1 mark)

6 A diet that is too high in fat can lead to:

- A obesity
- B heart disease
- C raised cholesterol levels
- D all the above

(Total for Question 6 = 1 mark)

7 Oily fish is a rich source of:

- A vitamins B and C
- B carbohydrate
- C vitamins A and D
- D fibre

(Total for Question 7 = 1 mark)



8 Frozen foods are given a star rating to indicate how long they should be stored in a freezer. One star indicates that food should be stored for

- A one day
- B one week
- C one month
- D one year

(Total for Question 8 = 1 mark)

9 A design specification is written for a chosen product. What is a design specification?

- A Shopping list
- B Costing list and analysis
- C Nutritional analysis of the product
- D A document that gives detailed requirements of the final design

(Total for Question 9 = 1 mark)

10 Carbohydrates are produced by plants during the process of:

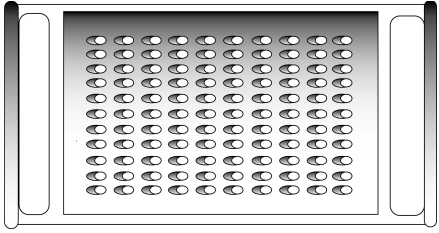

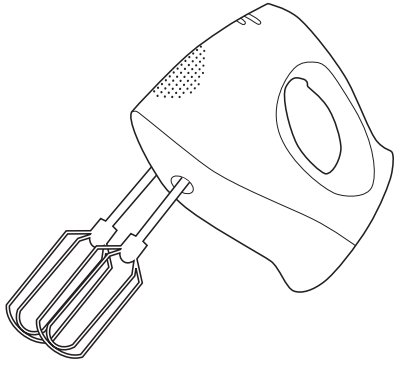
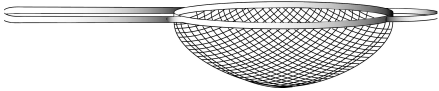
- A oxidation
- B photosynthesis
- C caramelisation
- D coagulation

(Total for Question 10 = 1 mark)



11 (a) The table below shows some tools and equipment.

Complete the table below by giving the missing names and uses.

Tool/Equipment	Name	Use
	Grater	(1)
	Vegetable knife	(1)
		Whisking air into a cake/cream/icing mixture (1)
		Aerating and/or removing lumps from flour or icing sugar (1)



(b) Milk is rich in protein.

Name **two** other nutrients found in milk.

(2)

1

2

(c) Name **three** dairy food products that are made from milk.

(3)

1

2

3

(d) Pasteurisation is used to extend the shelf life of milk.

State **two** other preservation treatments that are commonly used for milk.

(2)

1

2

(e) Milk is a highly perishable food.

Explain **one** undesirable effect of milk going off.

(2)

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(f) Give **two** reasons why milk shakes are made in high volume.

(2)

1

2



(g) The following recipe was used to produce a prototype drink product.

300ml cows milk

50g strawberries

15g sugar

Describe **two** modifications that would make the drink product suitable for a consumer with lactose intolerance.

(4)

1

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2

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(Total for Question 11 = 19 marks)



12 A manufacturer is developing a new range of healthy fast foods, to sell at sporting events.

The specification for the healthy fast food product is that it must:

- be a single portion
- have a range of textures
- include one protein food
- be filling
- include one ingredient high in fibre
- be low in saturated fat
- be suitable to be eaten hot or cold
- contain one portion of fruit or vegetables.

In the spaces opposite, use sketches and where appropriate brief notes to show **two different** design ideas for the healthy fast food product that meet the specification points above.

Candidates are reminded that if a pencil is used for diagrams/sketches it must be dark (HB or B).

Coloured pens, pencils and highlighter pens must **not** be used.

PLEASE DO NOT WRITE OR DRAW IN THIS SPACE.

PLEASE USE THE SPACE OPPOSITE FOR YOUR DESIGNS.



Design idea 1

(8)

Design idea 2

(8)

(Total for Question 12 = 16 marks)



13 The image below shows an individual main meal curry product, served with rice, sold in the chilled section of a supermarket.



(a) This main meal curry product contains high risk ingredients.

Name **one** high risk ingredient contained in the curry product, stating why it is high risk.

(2)

Ingredient

Reason

(b) Explain why standard components are used in the manufacture of the main meal curry food product.

(2)



(c) Give **two** reasons why the main meal curry product would be suitable for batch production.

(2)

1

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2

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(d) Explain why the main meal curry product is successful at meeting the following specification points:

(i) Suitable for reheating.

(2)

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(ii) Provide a range of textures.

(2)

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*(e) A food manufacturer produces a range of main meal curry products.

Below are two methods for making a vegetable curry.

Method A	Method B
<ul style="list-style-type: none"> • Assemble and weigh ingredients. • Wash and/or prepare vegetables: remove peel outer leaves. Chop and slice into even sized chunks. • Saute finely chopped onion in oil, in a large saucepan. • Add other vegetables. Mix well over a medium heat for 3–4 minutes. • Add 1 teaspoonful of curry powder, coriander, cumin and paprika. Mix well. • Add one 375g can of tomatoes. • Add vegetable stock cube and 125ml water. Mix well. • Simmer for 20 minutes, stirring occasionally. Vegetables become soft, flavours develop and consistency becomes thick. • Taste and season curry. • Serve immediately with rice and naan bread. 	<ul style="list-style-type: none"> • All ingredients checked for quality, using control systems, upon arrival at factory. • Vegetables arrive pre-washed, peeled and sliced. Placed into large cooking vat. Mixed and cooked by machine. • Sauce component ingredients pumped through pipes to preparation area. • Depositor injects pre-blended spices and dry ingredients into water to form required consistency for curry product. • Upon cooking, vegetables become soft, flavours develop and consistency becomes thick. • Quality control check. • Automated assembly of curry product into packaging. • Blast chilled. • Quality control check.



Evaluate method A compared with method B for use by a food manufacturer.

(6)

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(Total for Question 13 = 16 marks)



14 (a) There are many issues within the food industry.

(i) Give **two** current environmental issues within the food industry.

(2)

1

2

(ii) Give **two** current moral issues within the food industry.

(2)

1

2

(b) Describe **two** ways in which the food industry is trying to help consumers reduce the cost of their shopping bills.

(4)

1

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2

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(c) Quality control procedures are used throughout the food industry.

(i) Outline **one** quality control check that would take place at the following stages of production, giving a different check for each stage.

(3)

Raw materials

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Weighing/measuring

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Packaging of foods

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(ii) Labelling of food helps to ensure the quality of food products for consumers.

Explain the use of the date mark system in food labelling.

(2)

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