Write your name here

Surname

Other names

Edexcel GCSE

Centre Number

Candidate Number

Design and Technology: Food Technology
Unit 2: Knowledge and Understanding of Food Technology

Monday 3 June 2013 – Morning
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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PEARSON

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 Foods classified as dairy foods would be:

⊠ **A** milk, cheese, cream and yogurt

⊠ **B** milk, meat and eggs

⊠ **C** milk, cereals and fruit

⊠ **D** milk, fish and eggs

(Total for Question 1 = 1 mark)

2 A 'staple' crop is a term used to describe:

⊠ **A** a large crop

⊠ **B** a breakfast cereal

⊠ **C** a crop that provides more food energy worldwide than any other crop

⊠ **D** a seasonal crop

(Total for Question 2 = 1 mark)

3 Freezing is a preservation method for raw food materials using:

⊠ **A** a reduction in temperature

⊠ **B** chemical additives

⊠ **C** specialist packaging

⊠ **D** an increase in temperature

(Total for Question 3 = 1 mark)

4 The excessive intake of sodium can lead to:

⊠ **A** high blood pressure

⊠ **B** heart disease

⊠ **C** sickness

⊠ **D** all the above

(Total for Question 4 = 1 mark)

5 During pregnancy, a woman should:

    ☒   **A**   avoid soft cheeses

    ☒   **B**   eat shellfish

    ☒   **C**   eat as much food as possible for herself and her baby

    ☒   **D**   increase intake of vitamin A

(Total for Question 5 = 1 mark)

6 A method of dry cleaning food might involve:

    ☒   **A**   slicing

    ☒   **B**   sieving

    ☒   **C**   pulping

    ☒   **D**   all the above

(Total for Question 6 = 1 mark)

7 Blanching is a process used to:

    ☒   **A**   shrink a food product

    ☒   **B**   inactivate enzymes

    ☒   **C**   process vegetables prior to freezing

    ☒   **D**   all the above

(Total for Question 7 = 1 mark)

8 Biotechnology is based on:

    ☒   **A**   planning a special diet

    ☒   **B**   genetically modifying foods for specific uses

    ☒   **C**   labelling food correctly

    ☒   **D**   using less packaging materials

(Total for Question 8 = 1 mark)

9 Technological developments within the food industry have seen the emergence of 'specially developed' foods. What are these foods?

☒ **A** Fish, meat, eggs and dairy foods

☒ **B** Fruit and vegetables

☒ **C** Soya, TVP and Quorn

☒ **D** Nuts, lentils and pulses

(Total for Question 9 = 1 mark)

10 Food miles is a term referring to:

☒ **A** distance the animal has travelled from the farm

☒ **B** distance from field to farm

☒ **C** distance food is transported from field to plate

☒ **D** distance from fridge to table

(Total for Question 10 = 1 mark)

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

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

Tools/Equipment	Name	Use
	(1)	To weigh food/ingredients
	Scissors	**(1)**
	(1)	To mix, spread or lift food
	(1)	Mixing, combining, kneading, proving and baking dough
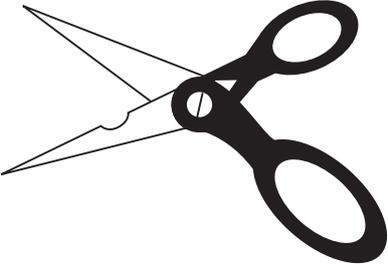
(b) Fats and oils are used in food preparation.

(i) Name **one** type of fat.

(1)

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(ii) Name **one** type of oil.

(1)

....

(iii) Describe the main difference between a fat and an oil.

(2)

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(iv) During prolonged storage, fats and oils will deteriorate and go off.

State the name of this deterioration process.

(1)

....

(c) Food technology involves the combining or processing of raw materials into edible food products.

(i) Name **one** primary food from a plant source.

(1)

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(ii) Describe how meat may be processed into a secondary food product.

(2)

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(iii) Describe **two** characteristics of industrial machinery used in the food industry.

(4)

1 ....

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2 ....

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(d) Celebration cakes are often made using one-off production.

State **two** advantages of one-off production when making celebration cakes.

(2)

1 ....

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2 ....

....

(e) The following recipe was used to produce a prototype sponge cake:

Sponge:
200 g butter
200 g caster sugar
200 g self raising flour
4 eggs

Fillings:
2 tbsp strawberry jam
50 g butter
100 g icing sugar

Describe **two** modifications that would make the sponge cake suitable for someone following a diabetic diet.

(4)

1 ....

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2 ....

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(Total for Question 11 = 22 marks)

12 A manufacturer is developing a new range of vegetarian main meals, suitable to be sold in the ready prepared meal section of a supermarket.

The specification for the vegetarian main meal food products is that they must:

- be suitable for a named group of vegetarians

- be filling

- include a good source of protein

- include a good source of iron

- include a fresh seasoning ingredient

- include a sensory quality linked to texture

- be able to be reheated easily

- be sustainable

In the spaces opposite, use sketches and, where appropriate, brief notes to show **two different** design ideas for the vegetarian main meal food products 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 SPACES OPPOSITE FOR YOUR DESIGNS.

Design idea 1

(8)

Design idea 2

(8)

(Total for Question 12 = 16 marks)

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13 The drawing below shows a family fruit trifle product, sold in the chilled section of a supermarket.

piped cream layer

chocolate custard layer

sponge finger layer

sliced oranges

individual clear plastic container

orange jelly layer made with fruit juice
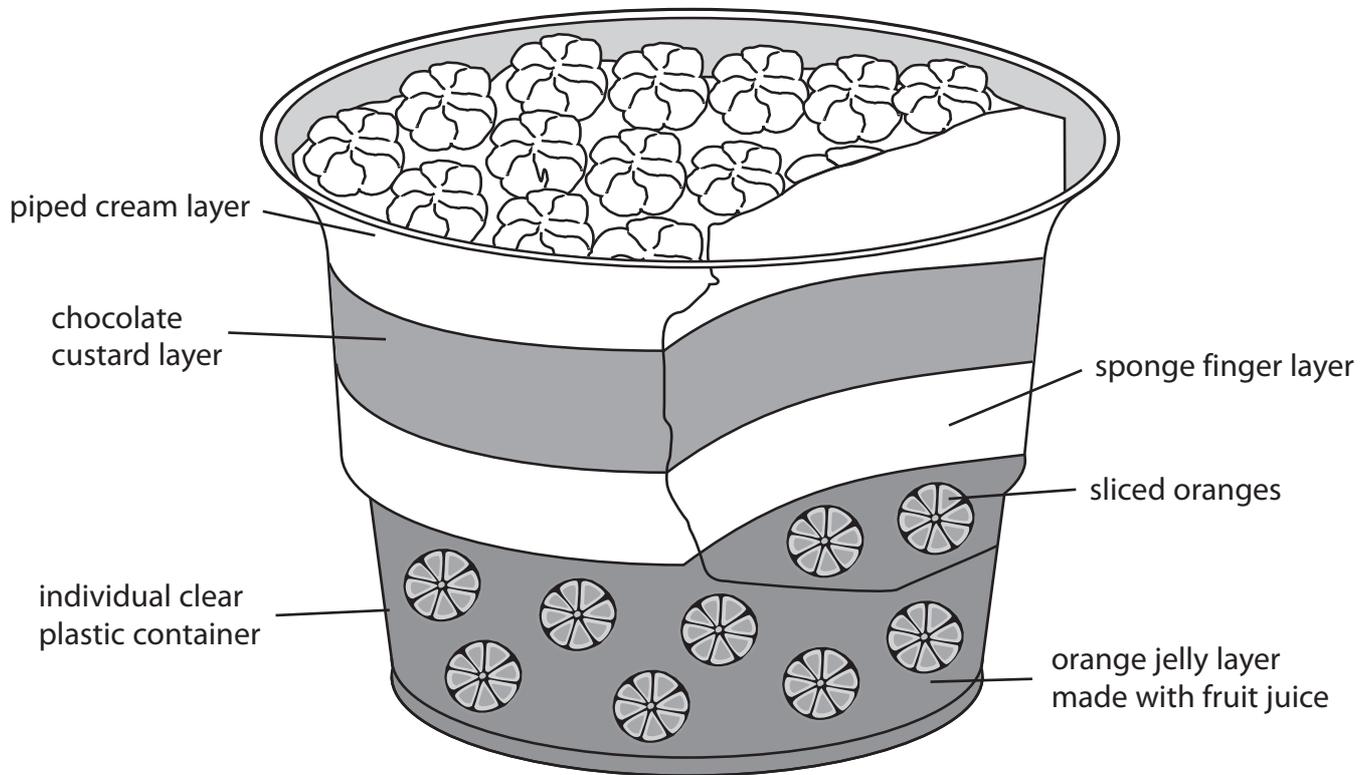
(a) The fruit trifle contains different component layers.

Give **one** property of the chocolate custard layer that makes it suitable for the trifle. Justify your answer.

(2)

Property

....

....

Justification

....

....

(b) The fruit layer has been prepared for processing.

List **two industrial** food preparation or processing techniques used to make the fruit layer in the trifle product.

(2)

1 ....

2 ....

(c) The fruit trifle has been produced using batch production.

Explain why the fruit trifle is made using batch production.

(2)

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(d) Explain how the fruit trifle could be successful at meeting the following specification points:

(i) environmentally friendly

(2)

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(ii) eye-catching to attract consumers.

(2)

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(e) A food manufacturer produces a range of desserts.

Below are two recipes for a fruit trifle.

Recipe A (ingredients only)	Recipe B (ingredients only)
150 g sponge cake 200 g fresh fruit 1 strawberry jelly 100 ml fruit juice 2 tbsp custard powder 2 tbsp caster sugar 100 ml semi skimmed milk 200ml whipping cream	200 g sponge fingers 75 g fruit concentrate 1 fruit jelly Skimmed milk Modified maize starch Pasteurised egg powder Sugar Stabilisers Emulsifiers Gelling agent Salt Flavourings Colour 100 ml whipping cream

Evaluate recipe A compared to recipe B for use by a food manufacturer.

(6)

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(Total for Question 13 = 16 marks)

14 Energy is needed in the body for many reasons.

(a) Name a unit of measurement for energy.

(1)

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(b) Give **one** example for **each** of the different types of energy used in the body.

(3)

Mechanical

....

Chemical

....

Electrical

....

(c) Explain the term 'energy balance'.

(2)

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(d) Food is an essential part of our lives. Everyone has different needs and requirements for food.

List **two** factors that affect our needs and requirements for food.

(2)

1 ....

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2 ....

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(e) Describe **one** factor to consider when planning meals for a young pre-school child.

(2)

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(f) Most food items need to be packaged.

Discuss the role of food packaging to ensure that the food remains in prime condition for the consumer.

(6)

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(Total for Question 14 = 16 marks)

TOTAL FOR PAPER = 80 MARKS

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