



General Certificate of Education
Advanced Level Examination
June 2013

Design and Technology: Food Technology

FOOD3

Unit 3 Design and Manufacture

Tuesday 4 June 2013 9.00 am to 11.00 am

For this paper you must have:

- normal writing and drawing instruments
- an AQA 12-page lined answer book which is provided separately.

Time allowed

- 2 hours

Instructions

- Use black ink or black ball-point pen. Use pencil and coloured pencils only for drawing.
- Write the information required on the front of your answer book. The **Examining Body** for this paper is AQA. The **Paper Reference** is FOOD3.
- Answer **three** questions.
- Answer **one** question from each of Sections 1 and 2 and **one** other question from either section.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 84.
- There are 28 marks for each question.
- You will be marked on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Advice

- Illustrate your answers with sketches and/or diagrams wherever you think it is appropriate.

Answer **three** questions.

Answer **one** question from each of Sections 1 and 2 and **one** other question from either section.

For each question that you answer, you should answer all parts of that question.

Section 1

Question 1

0	1
---	---

 Choose **two** of the foods listed below:

- soya beans
- minced beef
- lentils
- canned salmon.

In each case, identify **four** nutrients and explain their function. **Do not** include protein.

You should not use any nutrient more than once. *(2 × 8 marks)*

0	2
---	---

 Compare the physical structure of meat and fish. *(6 marks)*

0	3
---	---

 Explain why some methods of cooking are preferable for cheaper cuts of meat. *(6 marks)*

Question 2

0	4
---	---

 Explain why manufacturers use sweeteners in their products. Discuss whether or not you think this is a good thing for the consumer. *(10 marks)*

0	5
---	---

 Using a diagram, describe the structural form of **either** amylose **or** amylopectin. *(6 marks)*

0	6
---	---

 Starch is always accompanied by enzymes which readily break it down. Describe, with examples, how this can affect the sensory characteristics of food products. *(6 marks)*

0	7
---	---

 Describe the effect that each of the following has upon the production of a gel in a starch based sauce:

- proportion of amylose in the starch
- lemon juice
- sugar.

(3 × 2 marks)

Question 3

0	8
---	---

According to the Food Standards Agency (FSA) large numbers of working days are lost each year due to poor food hygiene.

What advice on the preparation and handling of food would help to minimise the risk from bacteria and viruses linked to food?

Give detailed reasons for each piece of advice.

(16 marks)

0	9
---	---

Colloidal systems have many important functions in producing food products. Describe what a colloid is and give examples. *(12 marks)*

Turn over for Section 2

Turn over ▶

Section 2

Question 4

1 0 Discuss the advantages and disadvantages of using cheap ingredients in the development of food products. (12 marks)

1 1 For **each** of the following foods give a method of preservation you would recommend for sensory qualities to be retained. Give reasons for your answer.

- Strawberries
- Cooked ham
- Treacle sponge pudding
- Milk

You should give a **different** method in each case. (4 × 4 marks)

Question 5

1 2 Supermarkets are making greater use of technologies for market research and promotion of food products. Give **three** different ways in which technologies can be used for these purposes and discuss the impact of each one upon the consumer. (3 × 4 marks)

1 3 What happens in a test kitchen when manufacturers are developing new products? (8 marks)

1 4 Outline the most important legislation in relation to food production and sale. (8 marks)

Question 6

1 5 Some food producers are developing unique methods of packaging, presenting and delivering food products to the consumer. Explain how food retailing is changing with the times. (10 marks)

1 6 Describe the uses of modified starches in food product design. (12 marks)

1 7 Why is traceability so important in food manufacture and retail? (6 marks)

END OF QUESTIONS