

General Certificate of Education
June 2004
Advanced Subsidiary Examination



DESIGN & TECHNOLOGY: FOOD TECHNOLOGY 5541
Unit 1 Materials and Components (FTY1)

Monday 14 June 2004 Morning Session

In addition to this paper you will require:

- an 8-page answer book (AB08) which is provided separately;
- normal writing and drawing instruments.

Time allowed: 1 hour 30 minutes

Instructions

- Use blue or black ink or ball-point pen. Pencil and coloured pencils should only be used 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 FTY1.
- Answer Question 1 and any **two** of Questions 2 to 4.

Information

- The maximum mark for this paper is 100 marks.
- 40 marks are allocated to Question 1, 28 to each of Questions 2 to 4, and 4 marks overall for quality of written communication.
- Mark allocations are shown in brackets.
- This paper carries 30 per cent of the total marks for Advanced Subsidiary and 15 per cent for Advanced Level.
- You are reminded of the need for good English and clear presentation. The quality of your written communication will be assessed across all questions.

Advice

- Your answers should be illustrated with sketches and/or diagrams wherever you feel it is appropriate.

SECTION AAnswer Question 1.

- 1 (a) Explain why a food manufacturer would use soya when designing savoury products. *(6 marks)*
- (b) Explain the differences in the composition of chicken and soya beans in the table below.

Per 100g	Energy (kJ)	Protein (g)	Fat (g)	Calcium (mg)	Iron (mg)
Chicken (roasted)	630	25.0	5.0	0	0.8
Soya Beans (cooked)	648	13.1	6.8	87	3.2

(10 marks)

- (c) Describe the effect of heat on the following ingredients.
- Cheddar Cheese
 - Eggs
 - Caster Sugar
- (3 × 3 marks)*
- (d) Explain the importance of non-starch polysaccharide (NSP) in the diet. *(5 marks)*
- (e) Explain how a food manufacturer could develop a range of food products high in NSP. *(10 marks)*

SECTION B

Answer any **two** questions from this section.

- 2 (a) Explain how a food manufacturer would use standard pre-manufactured components in a product range based on fresh fruit and vegetables. *(8 marks)*
- (b) (i) Name **two** water soluble micro nutrients.
- (ii) Name **two** fat soluble micro nutrients. *(2 × 2 marks)*
- (c) With reference to specific ingredients, describe **two** food products which could be developed that are rich in both vitamin C and calcium. *(6 marks)*
- (d) Discuss the effect of mass production and processing on micro nutrients. *(10 marks)*
- 3 Recipe for Shortbread Biscuits
- 150g Plain Flour
 - 25g Cornflour
 - 50g Caster Sugar
 - 100g Butter/Margarine
- (a) Explain the functions of each ingredient in the recipe above. *(4 × 2 marks)*
- (b) Describe how the flavour and texture could be developed to produce a range of shortbread biscuits. *(8 marks)*
- (c) Explain each of the following processes in the production of specific baked food products.
- Caramelisation
 - Dextrinisation
- (2 × 3 marks)*
- (d) Explain why a manufacturer may be reluctant to use artificial sweeteners in the production of baked food products. *(6 marks)*
- 4 (a) Describe the working characteristics of fats and oils in the production of
- Shortcrust Pastry
 - Mayonnaise
 - Deep fried food products.
- (3 × 4 marks)*
- (b) Discuss why many food products contain a high percentage of fat. *(6 marks)*
- (c) Explain why cheese would be a suitable ingredient when producing snack foods for a school canteen. *(10 marks)*

END OF QUESTIONS

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE