

General Certificate of Education
January 2003
Advanced Subsidiary Examination



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

Thursday 9 January 2003 Morning Session

In addition to this paper you will require:

- an unlined answer book (7024) 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.
- 40 marks are allocated to Question 1, 28 marks 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 award.
- 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.

Answer Question 1 and any **two** of Questions 2 to 4.

- 1 (a) Describe the advantages and disadvantages of using wholemeal wheat flour when producing bread. *(6 marks)*
- (b) Explain the different nutritional values of the breads given in the chart below. *(12 marks)*

Type (100g)	Energy (kcal)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	NSP
White Bread	230	7.8	1.7	1.7	100	4
Wholemeal Bread	220	8.8	2.7	2.5	25	7.5
White Bread – toasted	300	9.6	1.7	2.2	110	–

- (c) Explain the function of yeast in the manufacture of bread. *(6 marks)*
- (d) Explain the importance of gelatinisation in breadmaking. *(4 marks)*
- (e) Describe how a food manufacturer's research and development team could develop a range of bread rolls. Make reference to the use of ingredients and finishing techniques. *(12 marks)*
- 2 (a) Explain the importance of fruit and vegetables in the diet. *(4 marks)*
- (b) Explain why a food manufacturer would consider the use of standard pre-manufactured components within a range of products based on the use of fruit and vegetables. *(8 marks)*
- (c) Describe, giving examples, why a food manufacturer may use additives to colour, flavour and increase the nutritional content of products based on fruit and vegetables. *(12 marks)*
- (d) What ingredients, in addition to fruit and vegetables, would a food manufacturer use to create food products rich in vitamin C and iron. Give examples to explain your answer. *(4 marks)*

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- 3 (a) Name **six** functions of eggs. *(6 marks)*
- (b) Making reference to food products, describe each of the functions in part (a). *(12 marks)*
- (c) List **three** nutrients found in
- (i) egg white
 - (ii) egg yolk. *(2x3 marks)*
- (d) Briefly outline the factors to be considered in mass production in order to retain maximum vitamin content within food products. *(4 marks)*
- 4 Study the recipe below for a whisked sponge.
- 3 Eggs
75g Caster Sugar
75g Plain Flour
- (a) Explain the function of each ingredient. *(6 marks)*
- (b) Describe the changes that each of these ingredients undergo during the manufacture of a whisked sponge. *(10 marks)*
- (c) Explain the importance of each of the following during the production of cakes/baked goods. Give practical examples for each.
- (i) Moisture retention.
 - (ii) Caramelisation.
 - (iii) Dextrinisation. *(3x4 marks)*

END OF QUESTIONS