

General Certificate of Education
Summer 2003
Advanced Subsidiary Level Examination



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

Friday 6 June 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 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.

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

- 1 (a) Cheddar cheese contains a high proportion of protein. Discuss the importance of protein in the diet. *(6 marks)*
- (b) Explain the differences in the composition of the different types of cheeses outlined in the table below. *(10 marks)*

| Type | Ca (mg) | Vit D (ug) | Vit A (ug) | Vit C (mg) | Fe (mg) |
|-----------|---------|------------|------------|------------|---------|
| Cheddar | 800 | .3 | 400 | 0 | .4 |
| Cottage | 60 | .1 | 30 | 0 | .1 |
| Cream | 100 | .3 | 450 | 0 | .1 |
| Parmesan | 1200 | .3 | 400 | 0 | .4 |
| Processed | 700 | .2 | 250 | 0 | .5 |

- (c) Explain why cheese is a valuable ingredient for food manufacturers to use when designing snack products. *(10 marks)*
- (d) Describe the effect of heat on cheddar cheese. *(4 marks)*
- (e) Describe how a food manufacturer's research and development team could develop a range of products by using **two** cheeses from the above table. *(10 marks)*
- 2 (a) Name **three** different types of processed milk and describe their nutritional value. *(3x3 marks)*
- (b) Making reference to the three types of milk given in part (a), describe the effects of processing on the sensory and physical characteristics. *(3x4 marks)*
- (c) Describe an investigation that a research and development team would carry out to identify the best choice of milk to use in the production of *either* a cheese sauce *or* custard. *(7 marks)*

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- 3 (a) Pasta is a standard pre-manufactured component.
Explain how the food manufacturers have made it more exciting with reference to colour, flavour and shape. *(9 marks)*
- (b) Outline the nutritional value of pasta and explain why it is beneficial to fortify it with iron. *(7 marks)*
- (c) Explain why food manufacturers fortify food products with reference to the following:
- (i) Vitamins and minerals
 - (ii) Food processing
 - (iii) Changes in lifestyle. *(3x4 marks)*
- 4 (a) Using the shortcrust pastry recipe below:
- 200g plain flour
50g lard or white cooking fat
50g butter or margarine
- Explain:
- (i) the function of each ingredient *(3x2 marks)*
 - (ii) the importance of the proportion of the ingredients. *(5 marks)*
- (b) Explain why a food manufacturer would consider the use of standard pre-manufactured components within products using shortcrust pastry. *(8 marks)*
- (c) How could a research and development team develop the nutritional value, flavour and texture of a savoury **or** sweet pastry product? *(9 marks)*

END OF QUESTIONS