

General Certificate of Education
June 2006
Advanced Subsidiary Examination



DESIGN AND TECHNOLOGY: FOOD TECHNOLOGY FTY1
Unit 1 Materials and Components

Friday 9 June 2006 9.00 am to 10.30 am

For this paper you must have:

- a lined 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. 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 FTY1.
- Answer **three** questions.
- Answer Question 1 and any **two** of Questions 2 to 4.

Information

- The maximum mark for this paper is 100.
4 of these marks are for the Quality of Written Communication.
- 40 marks are allocated to Question 1, and 28 to each of Questions 2 to 4.
- The marks for questions are shown in brackets.
- You are reminded of the need for good English and clear presentation in your answers. Quality of Written Communication will be assessed in all answers.

Advice

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

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

SECTION A

You **must** answer this question.

- 1 (a) Explain which type of milk would be a suitable ingredient when producing a range of food products for
- young children
 - adults.
- (2 × 4 marks)*
- (b) Explain the differences in the composition of 100 g of the food products listed in the table below.

NUTRIENT CONTENT OF SIMILAR FOODS (PER 100 g)	Energy	Protein	Carbohydrate	Fat	Fibre	Vitamin C	Calcium	Iron
Fried egg	745 kJ	13.6 g	Trace	13.9 g	0 g	0 mg	65.0 mg	2.2 mg
Omelette, plain	792 kJ	10.9 g	Trace	16.4 g	0 g	0 mg	51.0 mg	1.7 mg
Scrambled egg, with milk	1025 kJ	10.7 g	0.6 g	22.6 g	0 g	0 mg	63.0 mg	1.6 mg

(10 marks)

- (c) Explain **each** of the following

- denaturation
- coagulation.

Use examples of food products in your answer.

(2 × 3 marks)

- (d) Describe **two** food products that a food manufacturer could produce which are rich in both Vitamin D and Calcium. Make reference to specific ingredients in your answer.
- (2 × 3 marks)*
- (e) With reference to specific examples, explain why a food manufacturer would use food additives to enhance the sensory characteristics of a product range.
- (10 marks)*

SECTION B

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

2 From a recipe for Shortcrust Pastry

- 100 g Plain Flour
- 25 g Butter/Margarine
- 25 g White Cooking Fat/Lard
- A pinch of salt and cold water to mix

- (a) Explain the functions of **each** ingredient in the recipe above. *(4 × 2 marks)*
- (b) Explain how a food manufacturer could modify the above ingredients for shortcrust pastry in response to consumer demands for healthier products. *(8 marks)*
- (c) Explain **each** of the following in the production of shortcrust pastry
- gelatinisation
 - aeration. *(2 × 2 marks)*
- (d) Discuss why a food manufacturer would use standard pre-manufactured components in a product range based on shortcrust pastry. *(8 marks)*

- 3** (a) Describe the effect of moist heat on starch. *(3 marks)*
- (b) Explain why rice would be a suitable ingredient when producing a snack food product range. Make reference to sensory characteristics, types of rice and food processing in your answer. *(12 marks)*
- (c) Explain why rice is a high risk food. *(4 marks)*
- (d) Explain the importance of the following in the production of food products
- emulsification
 - dextrinisation
 - moisture retention.

Make reference to specific food products in your answer. *(3 × 3 marks)*

Turn over ▶

-
- 4 (a) (i) Name **two** sources of Iron. *(2 marks)*
- (ii) Name **two** sources of Vitamin C. *(2 marks)*
- (b) Explain how mass production methods can affect the nutritional content of specific food products. *(10 marks)*
- (c) Explain why it is beneficial to fortify soya with micro nutrients. *(4 marks)*
- (d) Discuss, with specific examples, why soya would be a suitable ingredient when producing ready meals. *(10 marks)*

END OF QUESTIONS