

General Certificate of Education
January 2005
Advanced Subsidiary Examination



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

Monday 10 January 2005 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 **three** questions.
- 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.

SECTION A

Answer Question 1.

- 1 (a) Describe the nutritional properties of
- (i) Egg White
 - (ii) Egg Yolk. (2×3 marks)
- (b) Explain the functions of eggs in the following food products.
- (i) Mayonnaise
 - (ii) Victoria Sandwich
 - (iii) Egg Custard Tart (3×3 marks)
- (c) Describe the working characteristics of milk with reference to **five different** food products. (5×2 marks)
- (d) Explain the differences in the composition of 100 g of the food products listed in the table below. (10 marks)

	Energy	Protein	Carbo- hydrate	Fat	Fibre	Vitamin C	Calcium	Iron
Skimmed milk	140 kJ	3.3 g	5.0 g	0.1 g	0.0 g	1.0 mg	120 mg	0.1 g
Milk shake, made with whole milk	368 kJ	3.1 g	11.1 g	3.7 g	Trace	1.0 mg	110 mg	0.2 g
Goats milk	290 kJ	3.3 g	4.6 g	4.5 g	0.0 g	0.0 mg	130 mg	0.0 g

Table 1 Nutrient content of similar foods (per 100 g)

- (e) What factors need to be considered in mass production to retain maximum vitamin and mineral content within food products? (5 marks)

SECTION B

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

- 2 (a) Explain the function of each of the following in the production of bread.
- Strong Plain Wholemeal Flour *(4 marks)*
 - Yeast *(2 marks)*
 - Water *(2 marks)*
 - Fat *(2 marks)*
 - Salt *(2 marks)*
- (b) Describe the difference between soluble and insoluble Non Starch Polysaccharide (NSP). Give an example of each. *(2×3 marks)*
- (c) Discuss why a product development team would consider the use of standard pre-manufactured components within a range of baked goods. *(10 marks)*
- 3 (a) (i) Name **three** different types of rice. *(3 marks)*
- (ii) State the nutritional value of rice. *(3 marks)*
- (b) Why is rice considered to be a high risk food? *(6 marks)*
- (c) Study the ingredients below for egg fried rice.
- 200 g white basmati rice
 - 1 small onion
 - 25 g mushrooms
 - 25 g peas
 - 2 eggs
 - 2 tablespoons oil
 - soy sauce
- Explain how a research and development team could develop the nutritional value, flavour and texture of this product. *(12 marks)*
- (d) Describe the effects of cooking with moist heat on rice. *(4 marks)*
- 4 (a) Explain the following processes and give an example of each.
- (i) Denaturation
 - (ii) Aeration
 - (iii) Coagulation *(3×4 marks)*
- (b) Describe the nutritional value of soya and explain why it is beneficial to fortify it with micro nutrients. *(8 marks)*
- (c) Describe how a food manufacturer could develop a range of savoury and sweet products based on soya. *(8 marks)*

END OF QUESTIONS

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE