

General Certificate of Education
June 2007
Advanced Level Examination



DESIGN AND TECHNOLOGY: FOOD TECHNOLOGY FTY6
Unit 6 Written Paper

Tuesday 19 June 2007 1.30 pm to 4.30 pm

For this paper you must have:

- a 12-page answer book (AB12) which is provided separately
- normal writing and drawing instruments.

Time allowed: 3 hours

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 FTY6.
- Answer **four** questions.
Answer **one** question from each of Sections A, B and C and **one** other question from any section.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 100.
- There are 24 marks for each question.
Four of these marks will be awarded for using good English, organising information clearly and using specialist vocabulary where appropriate.

Advice

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

Answer **one** question from **each** of the three sections and **one** other question from any section.

SECTION A

Materials and Components

- 1 (a) Explain why it is recommended that adults should consume an average of 18 g of Non Starch Polysaccharide per day. *(4 marks)*
- (b) Explain the meaning of the following terms:
- (i) insoluble Non Starch Polysaccharide, *(2 marks)*
- (ii) soluble Non Starch Polysaccharide. *(2 marks)*
- (c) Describe **three** different ways of increasing Non Starch Polysaccharide intake in the diet. *(6 marks)*
- (d) Using diagrams and/or notes, describe how starch differs from sugar in its chemical structure. *(6 marks)*
- (e) Explain why it is recommended that starches (complex carbohydrates) are eaten in preference to sugars in order to maintain a healthy diet. *(4 marks)*
- 2 (a) (i) Compare the nutritional characteristics of white fish and oily fish. *(4 marks)*
- (ii) Explain the reasons why fish requires a shorter cooking time than meat. *(4 marks)*
- (iii) Explain why fish is a high risk food. *(4 marks)*
- (b) Explain what is meant by **each** of the following in food production.
- (i) emulsion *(3 marks)*
- (ii) foam *(3 marks)*
- (iii) suspension *(3 marks)*
- (iv) gel *(3 marks)*

SECTION B**Design and Market Influences**

- 3 Describe the stages of food product development, starting with concept development, through product launch to future developments. *(24 marks)*
- 4 Explain **each** of the following in relation to ethical food production.
- (a) factory farming *(6 marks)*
 - (b) growth promoters *(6 marks)*
 - (c) genetic engineering *(6 marks)*
 - (d) regional and international influences *(6 marks)*

Turn over for the next question

Turn over ▶

SECTION C**Processes and Manufacture**

- 5 (a) Describe how food manufacturers maintain uniformity when producing large quantities of baked products. (8 marks)
- (b) Explain how the production system *just-in-time* is of benefit to food manufacturers. (6 marks)
- (c) Explain how food manufacturers can make their factories more energy efficient. (10 marks)
- 6 (a) Explain how modified atmospheric packaging is used to extend the shelf life of food products. (8 marks)
- (b) Use examples to explain the advantages to consumers of modified atmospheric packaged food products. (8 marks)
- (c) Explain **each** of the following terms in relation to food production.
- (i) risk assessment (2 marks)
 - (ii) HACCP (2 marks)
 - (iii) assured safe catering (2 marks)
 - (iv) critical path analysis (2 marks)

END OF QUESTIONS