

General Certificate of Education
June 2008
Advanced Level Examination



DESIGN AND TECHNOLOGY: FOOD TECHNOLOGY FTY6
Unit 6 Written Paper

Friday 13 June 2008 9.00 am to 12 noon

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 black ink or black 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) What is the general chemical formula for an amino acid? You may use a diagram to explain your answer. (5 marks)
- (b) Describe how amino acids link together to form *polypeptide chains*. You may use diagrams to explain your answer. (5 marks)
- (c) Explain the process of denaturation, making reference to the chemical and physical structure of proteins. (6 marks)
- (d) Explain why some protein foods have a higher biological value than others. (4 marks)
- (e) What are *novel proteins*? Give examples to support your answer. (4 marks)
- 2 (a) What are the functions of lipids in the diet? (5 marks)
- (b) Explain the following terms.
- (i) saturated fat (3 marks)
- (ii) polyunsaturated fat (3 marks)
- (iii) monounsaturated fat (3 marks)
- (c) Explain why some consumers purchase low fat products. (4 marks)
- (d) Describe what is meant by *rancidity*. (6 marks)

SECTION B**Design and Market Influences**

- 3 (a) Explain why market research is an essential part of product development. Use examples in your answer. *(12 marks)*
- (b) Describe how manufacturers market and promote a new product. *(12 marks)*
- 4 (a) Explain the importance of food packaging materials in relation to the following issues.
- (i) transportation and protection of food products *(8 marks)*
- (ii) preservation of food products *(8 marks)*
- (b) What are the factors that must be taken into account when calculating the selling cost of a food product? *(8 marks)*

Turn over for the next question

Turn over ►

SECTION C**Processes and Manufacture**

5 *The majority of food poisoning outbreaks are caused as a result of human error.*

Discuss this statement with reference to the following issues.

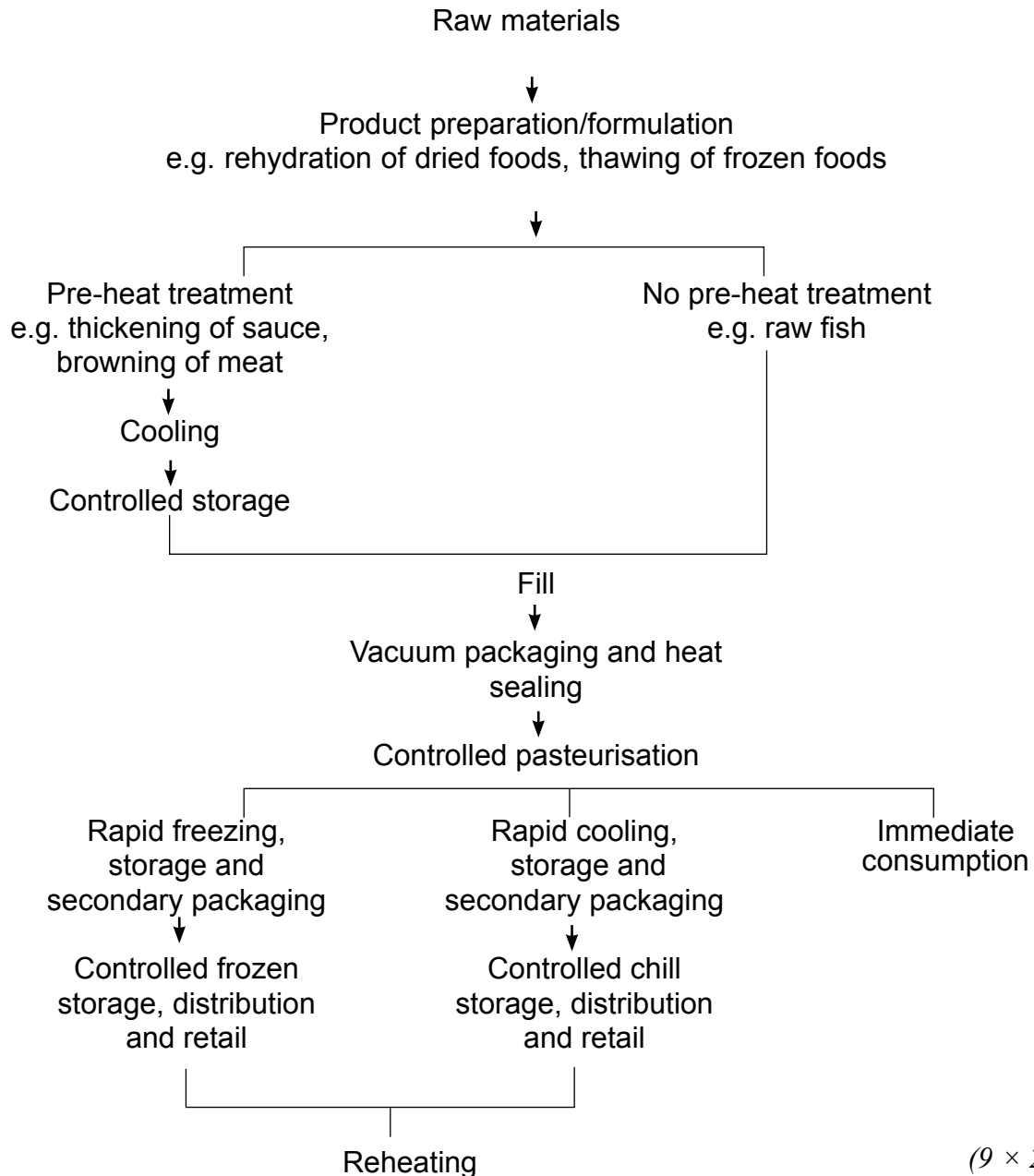
- the principles of basic food hygiene
- systems that manufacturers put into place to prevent food contamination
- legislation

(24 marks)

6 (a) Examine the flow diagram below and, in your answer book, explain

- **where** the *critical control points* of the system are; and
- **why** they are critical.

General flow diagram for the production, storage and distribution of chilled and frozen foods



(b) Describe the process of pasteurisation, giving examples of foods preserved by this method. (6 marks)

END OF QUESTIONS

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