

General Certificate of Education
Summer 2003
Advanced Level Examination



DESIGN & TECHNOLOGY: FOOD TECHNOLOGY 6541
Unit 6 Written Paper (FTY6)

Friday 27 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: 3 hours

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

Information

- The maximum mark for this paper is 100.
- 24 marks are allocated to each question and 4 marks overall are allocated for quality of written communication.
- Mark allocations are shown in brackets.
- This paper carries 20 per cent of the total marks 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.

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

SECTION A

Materials and Components

- 1 (a) Describe the structure of protein and how it is affected by heat. *(8 marks)*
- (b) Quorn has become popular as an alternative to animal sources of protein.
Describe:
- (i) the ingredient(s) and methods used in its manufacture;
 - (ii) its physical and nutritional properties and sensory characteristics, in comparison to other protein foods. *(10 marks)*
- (c) Why is it beneficial for people to obtain their daily protein intake from a variety of sources? *(6 marks)*
- 2 (a) With reference to **two** starches, describe:
- (i) the physical and sensory characteristics achieved by their use;
 - (ii) the conditions required for gelatinisation to take place. *(16 marks)*
- (b) Explain why modified starches have been developed and, using examples, describe their working properties. *(8 marks)*

SECTION B**Design and Market Influences**

- 1** Market Research is used to gather information and identify possible markets.
- (a) Describe **four** different types of market research and state the advantages and disadvantages of each method. *(4 x 5 marks)*
- (b) Explain why patenting is of importance to the designer and manufacturer. *(4 marks)*

- 2** New novel foods (functional foods) are becoming increasingly popular because they claim to provide a health benefit beyond the traditional nutrients they contain, but some people doubt whether they are value for money.

Discuss the statement above with reference to:

- (i) nutritional value
- (ii) value for money
- (iii) market influences.

Give examples where appropriate. *(24 marks)*

TURN OVER FOR SECTION C

Turn over ►

SECTION C**Processes and Manufacture**

- 1 (a) Explain, with examples, the advantages and disadvantages for manufacturers in using freezing as a method of preserving food products **or** components. *(12 marks)*
- (b) What should a manufacturer consider when designing a food production system for a cook-chill product? Make reference to high risk foods and shelf life in your answer. *(12 marks)*
- 2 Explain how food manufacturers could adapt their manufacturing practices in order to become more energy efficient and environmentally friendly. *(24 marks)*

END OF QUESTIONS