

General Certificate of Education
June 2006
Advanced Level Examination



DESIGN AND TECHNOLOGY: FOOD TECHNOLOGY FTY6
Unit 6 Written Paper

Tuesday 20 June 2006 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 maximum mark for this paper is 100.
- There are 24 marks for each Question.
4 of these marks are for the Quality of Written Communication.
- 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 **one** question from **each** of the three sections and **one** other question from any section.

SECTION A

Materials and Components

- 1 (a) Compare and discuss the nutritional composition of the foods in the table below.

Composition of food per 100 g

| Food | Energy Value kJ | Protein g | Fat g (Of which cholesterol) | Carbohydrate g | Dietary Fibre g | Iron mg | Calcium mg | Sodium mg | Vitamin B ₁₂ µg |
|--|--------------------|--------------|---------------------------------------|-------------------|-----------------------|------------|---------------|--------------|----------------------------------|
| Beef: Topside, lean and fat, roast | 896 | 26.6 | 12.0 (0.82) | 0 | 0 | 2.6 | 6 | 48 | 2.0 |
| Chicken: Roast, meat and skin | 902 | 22.6 | 14.0 (1.03) | 0 | 0 | 0.8 | 9 | 72 | Trace |
| Cod fillets: baked | 408 | 21.4 | 1.2 (0.48) | 0 | 0 | 0.4 | 22 | 340 | 2.0 |
| Mackerel: smoked | 1465 | 18.9 | 30.9 (1.04) | 0 | 0 | 1.2 | 2.0 | 750 | 5.6 |
| Myco- protein: Quorn | 360 | 11.8 | 3.5 (0) | 2.0 | 4.8 | Trace | Trace | 240 | 0.3 |
| Soya Beans: dried, boiled in unsalted water | 590 | 14.0 | 7.3 (0) | 5.1 | 6.1 | 3.0 | 83 | 1 | 0 |

Ministry of Agriculture, Fisheries and Food

(10 marks)

- (b) (i) State the meaning of the term 'Dietary Reference Values' (DRVs). (2 marks)
- (ii) Explain why Dietary Reference Values were introduced. (4 marks)
- (c) Explain the different nutritional issues for a vegan compared to a meat eater. (8 marks)

2 (a) Describe each of the following with reference to their chemical composition and physical characteristics:

- (i) monosaccharides,
- (ii) disaccharides,
- (iii) simple polysaccharides.

(3 × 4 marks)

(b) Explain why the following are used in large-scale manufacture:

- (i) anti-caking agents,
- (ii) antioxidants,
- (iii) emulsifiers,
- (iv) stabilisers.

(4 × 3 marks)

Turn over for the next question

Turn over ▶

SECTION B**Design and Market Influences**

3 'Food manufacturers have many opportunities to develop food products.'

Discuss this statement with reference to:

- (a) travel and migration,
- (b) disposable income and consumer expectations,
- (c) specific dietary needs,
- (d) different types of retailing outlets.

(4 × 6 marks)

- 4 (a) What are the arguments for **and** against the use of Genetically Engineered (Genetically Modified) crops in food products? *(12 marks)*
- (b) Describe how food manufacturers and consumers can reduce the volume of packaging waste. *(12 marks)*

SECTION C**Processes and Manufacture**

- 5 (a) Describe how the following food legislation protects the consumer.
- 1990 Food Safety Act
 - 1985 Weights and Measures Act and amendments *(12 marks)*
- (b) Why do manufacturers of ready meals carry out regular microbiological tests on product batches? *(6 marks)*
- (c) Describe how a microbiological test is carried out **and** how the results are used. *(6 marks)*
- 6 (a) Describe the ingredients and processes used in the manufacture of yoghurt. *(12 marks)*
- (b) Preservation can cause sensory, physical or nutritional changes to food quality. Describe the specific changes that the following preservation methods could cause:
- (i) freeze-drying,
 - (ii) irradiation,
 - (iii) smoking,
 - (iv) Ultra Heat Treatment. *(4 × 3 marks)*

END OF QUESTIONS

There are no questions printed on this page

There are no questions printed on this page

There are no questions printed on this page