General Certificate of Education
January 2006
Advanced Subsidiary Examination

ASSESSMENT and QUALIFICATIONS ALLIANCE

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

Tuesday 10 January 2006 9.00 am to 10.30 am

For this paper you must have:
- 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. 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 FTY1.
- Answer **three** questions.
- Answer Question 1 and **two** other questions.

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 are for Quality of Written Communication.
- The marks for questions are shown in brackets.
- You are reminded of the need for good English and clear presentation. All questions should be answered in continuous prose. 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.

SECTION A

Answer Question 1.

1 (a) Explain and give **two** examples of each of the following:

- Soluble Non Starch Polysaccharides;
- Insoluble Non Starch Polysaccharides. *(2 × 4 marks)*

(b) Using examples, explain how a food manufacturer could develop a range of *savoury* food products that are high in Non Starch Polysaccharides. *(10 marks)*

(c) Explain the differences in the composition of 100 g of the food products listed in the table below. *(10 marks)*

Nutrient content of similar foods (per 100 g)	Energy	Protein	Carbohydrate	Fat	Fibre	Vitamin C	Calcium	Iron
White rice, boiled	587 kJ	2.6 g	30.9 g	1.3 g	0.1 g	0 mg	18.0 mg	0.2 mg
Couscous	950 kJ	5.7 g	51.3 g	1.0 g	N	0 mg	19.0 mg	5.0 mg
Egg fried rice	873 kJ	4.2 g	25.7 g	10.6 g	0.4 g	Trace	13.0 mg	0.5 mg

(d) (i) What is 'enzymic browning'? *(2 marks)*

(ii) Give **two** examples of 'enzymic browning' in the production of food products. *(2 marks)*

(e) Explain why a food manufacturer would use standard pre-manufactured components in a product range. *(8 marks)*

SECTION B

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

2 Ingredients for small cakes:

- 150 g Self Raising Flour
- 150 g Soft Margarine/Butter
- 150 g Caster Sugar
- 3 Medium sized Eggs

(a) Explain the functions of each of the ingredients for small cakes above.
(4 × 2 marks)

(b) Explain the importance of **each** of the following processes in the production of a creamed mixture:

- Emulsification;
- Moisture Retention. *(2 × 3 marks)*

(c) Describe how the flavour, texture **and** nutritional value of a recipe using these ingredients could be developed to produce a range of small cakes. *(10 marks)*

(d) Describe **four** finishing techniques that could be applied to small cakes to make them more appealing to the consumer. *(4 marks)*

3 (a) Describe the working characteristics of starch during the production of a roux sauce.
(4 marks)

(b) Explain how a food manufacturer could develop the consistency and flavour of a range of roux based sauces. *(8 marks)*

(c) Describe **two** food products that a food manufacturer could produce which are rich in **both** Vitamin C and Iron. Make reference to specific ingredients in your answer.
(2 × 3 marks)

(d) Discuss the effects of food processing methods on **both**

- Water soluble; and
- Fat soluble micro-nutrients. *(10 marks)*

Turn over for the next question

4 (a) Explain why a food manufacturer would use food additives to improve the

- 'sensory';
- 'physical'; **and**
- 'nutritional qualities'

of food products. Use specific examples in your answer. *(3 × 4 marks)*

(b) (i) Name **two** sources of Vitamin D. *(2 marks)*

(ii) Name **two** sources of Vitamin A. *(2 marks)*

(c) Explain why soya would be a suitable ingredient when producing snack foods. *(8 marks)*

(d) Explain **each** of the following in the production of food products based on eggs:

- Denaturation;
- Coagulation. *(2 × 2 marks)*

END OF QUESTIONS