General Certificate of Education
June 2008
Advanced Subsidiary Examination

ASSESSMENT and QUALIFICATIONS ALLIANCE

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

Wednesday 4 June 2008 9.00 am to 10.30 am

For this paper you must have:
- a lined 8-page answer book (AB08) which is provided separately
- normal writing and drawing instruments.

Time allowed: 1 hour 30 minutes

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 FTY1.
- Answer **three** questions.
  Answer Question 1 and any **two** of Questions 2 to 4.

Information
- The maximum mark for this paper is 100.
  Four of these marks will be awarded for using good English, organising information clearly and using specialist vocabulary where appropriate.
- There are 40 marks for Question 1, and 28 each for Questions 2, 3 and 4.
- The marks for questions are shown in brackets.

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

Answer Question 1 and **two** other questions.

SECTION A

You **must** answer this question.

1 (a) Explain the differences in the composition of 100 g of the food products outlined in the table below.

	kcal	protein (g)	fat (g)	iron (mg)	calcium (mg)
per 100 g					
Double Cream	447	1.5	48.2	0.2	50
Single Cream	195	2.4	19.3	0.3	79
Whole Milk	65	3.2	3.9	0	120
Skimmed Milk	32	3.4	0.1	0	130

(8 marks)

(b) Discuss the advantages **and** disadvantages to a food manufacturer of the use of food additives. *(12 marks)*

(c) Explain how a research and development team could develop the nutritional value, flavour **and** texture of a product range based on cheese. Use specific examples in your answer. *(10 marks)*

(d) Explain the term *syneresis* in a food product based on eggs. *(3 marks)*

(e) Describe the effects of food processing on vitamins. *(7 marks)*

SECTION B

Answer **two** questions from this section.

2 (a) Explain the functions of **each** of the following in the production of bread.

(i) Strong plain wholemeal flour *(4 marks)*

(ii) Yeast *(2 marks)*

(iii) Water *(2 marks)*

(iv) Fat *(1 mark)*

(v) Salt *(1 mark)*

(b) Explain the function and importance of soluble **and** insoluble Non Starch Polysaccharide (NSP). Give an example of each. *(2 × 3 marks)*

(c) Explain why the product development team would consider the use of standard pre-manufactured components within a product range based on fruit and vegetables. *(12 marks)*

3 (a) Explain the functions of each of the ingredients below that are used in the production of small cakes.

Ingredients for small cakes

- 150 g self raising flour
- 150 g soft margarine/butter
- 150 g caster sugar
- 3 medium sized eggs *(4 × 2 marks)*

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

(i) emulsification, *(3 marks)*

(ii) moisture retention. *(3 marks)*

(c) Describe how the flavour, texture **and** nutritional value of small cakes can be modified to produce a product range. *(10 marks)*

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

Turn over for the next question

4 (a) Explain the function of lipids (fats and oils) in the production of:

(i) mayonnaise, *(4 marks)*

(ii) flaky pastry, *(4 marks)*

(iii) shortcrust pastry. *(4 marks)*

(b) Describe, with an example for each, what is meant by the following terms.

(i) deep fat frying *(4 marks)*

(ii) shallow frying *(4 marks)*

(iii) dry frying *(4 marks)*

(c) What are the effects of frying on the nutritional value of food products? *(4 marks)*

END OF QUESTIONS