

General Certificate of Education
January 2007
Advanced Subsidiary Examination



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

Wednesday 10 January 2007 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 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 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) These are the ingredients for a whisked sponge.

75 g plain flour
75 g caster sugar
3 medium eggs

Describe the working characteristics of **each** ingredient during the manufacture of a whisked sponge. *(3 × 3 marks)*

- (b) Explain **each** of the following terms, making reference to cake production.

(i) moisture retention *(4 marks)*

(ii) caramelisation *(4 marks)*

- (c) Explain why the fortification of white flour with the micro nutrient calcium would benefit consumers. *(5 marks)*

- (d) Explain the differences in the composition of 100 g of the food products listed in the table below.

	kcal	protein(g)	fat(g)	Fe(mg)	Ca(mg)
White sliced bread	230	8.2	1.7	1.6	10
Wholemeal bread	215	9	2.5	2.7	54
Baked potato	76	1.8	0.1	0.4	4
White rice	359	7	1	0.5	4
White pasta	342	12	1.8	2.1	25

(10 marks)

- (e) What are the advantages for manufacturers of using standard pre-manufactured food components in a product range? *(8 marks)*

SECTION B

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

- 2 (a) Describe the effects of heat on eggs. *(6 marks)*
- (b) Explain why a food manufacturer would use soya when designing food products. *(8 marks)*
- (c) (i) Name **two** water soluble micro nutrients. *(2 marks)*
- (ii) Name **two** fat soluble micro nutrients. *(2 marks)*
- (d) Discuss the effect of food processing on micro nutrients. Make reference to specific food products in your answer. *(10 marks)*
- 3 (a) Describe **five** functions of eggs in food production. Make reference to specific food products in your answer. *(5 × 2 marks)*
- (b) Describe the effects of heat on cheese. *(4 marks)*
- (c) Describe the working characteristics of fats and oils in the production of
- (i) mayonnaise, *(4 marks)*
- (ii) deep fried potatoes. *(4 marks)*
- (d) Explain why many processed food products contain a high percentage of fat. *(6 marks)*

Turn over for the next question

Turn over ►

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- 4 (a) Explain the function 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. (6 marks)
- (c) (i) What are the effects of *enzymic browning*? (2 marks)
- (ii) Name **two** food products which show examples of enzymic browning. (2 marks)
- (d) Explain why some food manufacturers are trying to reduce the use of food additives in their products. (8 marks)

END OF QUESTIONS